Environmental Pillar

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Supporting greater ambition for Ireland's peatlands in the Nature Restoration Law

Edited by Fintan Kelly

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Peatland Restoration for Europe

- Under Art 9(4) the NRL should provide separate targets for both reduced management intensity and more ambitious rewetting and restoration targets which recreate the conditions for an active peat forming state.
- More ambitious targets are needed for the rewetting of drained organic soils in agricultural use and the restoration of degraded peatlands. If flexibility is allowed between restoration measures on peat extraction sites and the targets for agricultural land then safeguards should be included which ensure that minimal thresholds of ambition are met for both the rewetting and restoration of drained peatlands in agricultural use.
- The scope of Art 9(4) and the NRL should be expanded so that targets are set for the restoration and rewetting of drained peatlands under all land uses, not just drained peatlands in agricultural use. Given the different proportions of peatlands under different land uses across Member States, targets for all land use types will create a more level playing field across the EU.

Peatland Restoration for Ireland

- Ireland should advocate for a more ambitious NRL that contributes to the implementation of national targets and creates a level playing field with other Member States.
- Ireland should support increased ambition within the targets for the rewetting of organic soils and the rehabilitation of peatlands, at the very least ensuring that the EU targets are consistent with achieving a 51% reduction in net emissions in Ireland's LULUCF sector.

Peatland Restoration for Communities

- It is essential that farmers and rural communities are central in shaping and driving all of the measures required under the Nature Restoration Law and national land use policy. Communities and landowners must be involved in decision making through early and sustained engagement. Wherever possible management interventions should look to deliver multiple environmental and social benefits and reward practitioners for the ecosystem services provided.
- Ireland should be a leader in climate-smart land use, using tailored agri-environmental schemes to reward farmers for the delivery of synergetic ecosystem services such as carbon sequestration and biodiversity.
- Ireland should work with the European Commission and other Member States to develop a road map for delivering the NRLs targets using all available financial instruments.
- Whatever the mechanism, increased financial support will be required and it will have to deliver long term support compatible with the long-term commitment required to deliver improved land management.

Contents

Address for correspondence: Environmental Pillar. MACRO Centre, 1 Green Street, Dublin 7, Ireland.
Telephone: 01 8780116

Cover Photo: Cloncrow Bog, Co. Westmeath after restoration works, by Eugene Dunbar
Photo Page 2: Red Grouse by Brian Taylor

Supporting greater ambition for Ireland's Peatlands in the Nature Restoration Law

Introduction

The EU's peatlands support threatened biodiversity and provide essential ecosystem services such as climate change adaptation, resilience and mitigation, water regulation and human well-being[1]. Peatlands are the most important terrestrial ecosystem on the planet when it comes to carbon sequestration. Peatlands cover a mere 3-4% of the world's land area yet they contain up to one third of the world's soil carbon and twice as much as all the world's forests combined[2]. Keeping this carbon locked up is critical to achieving global climate goals[3]. Europe's peatlands cover an area of approximately 350,000 km^2, however more than 50% are degraded by drainage and uses such as agriculture, forestry and peat extraction[4]. Rather than sequestering carbon these degraded peatlands are a source of 230 Mt CO_2eq/year, which equates to approximately 7% of EU-27 total greenhouse gas emissions (GHG)[5].

International biodiversity and climate change conventions such as the Convention on Biological Diversity and United Nations Framework Convention on Climate Change now recognise that climate change and biodiversity loss are closely intertwined and that nature-based solutions to climate change such as peatland and wetland rewetting are the "*low-hanging fruit, and among the most cost-effective options for mitigating climate change*"[6]. At EU level, peatlands have already been highlighted as playing an important role in contributing to our Paris Agreement commitments. The EU Biodiversity Strategy also targets that as a priority by 2030, significant areas of degraded and carbon-rich ecosystems within the EU must be restored. Rewetting just 3% of agricultural land in the EU will save up to 25% of agricultural GHG emissions[7], while raising the water table of drained peatlands in agricultural use can greatly reduce GHG emissions without necessarily halting their productive use[8].

In Ireland peatlands cover ca. 20% of the land surface and 75% of the Soil Organic Carbon[9]. The drainage and degradation of peatlands has resulted in them being a major source of GHG emissions[10]. Ireland is home to a high-proportion of some of Europe's most threatened peatland habitats such as 60% of European raised bog habitat[11] and 8% of global blanket bog habitat[1 12]. Ireland supports one of the greatest peatland areas in Europe but also has one of the highest proportions of degraded peatland area[4 13]. The Irish Peatland Conservation Council estimates that only 25% of Ireland's peat resources are in a conservation worthy condition[14]. As 75% of the national peatland resource is not functioning hydrologically or ecologically, biodiversity has suffered immensely. 19% of the Red-Listed Birds of Conservation Concern in Ireland utilise peatlands at some point within their life-cycle; while 42% of Red-Listed butterfly species and 60% of Red-Listed Dragonfly and Damselfly species utilise peatlands[15]. Peatland rehabilitation and restoration are critically important policies which Ireland must take to deliver synergistic gains for both biodiversity loss and climate change mitigation and adaptation.

We, therefore, welcome the targets within the proposal for an EU Nature Restoration Law (NRL) to restore and rewet drained peatlands and organic soils under agricultural use. Rather than being onerous the NRL is an opportunity to garner EU support for our existing national commitments. We call on Irish leaders in the European Council and Parliament to work to increase the scope and the ambition of the targets within the NRL. The challenge for decision makers is how can the NRL

help us to collectively improve peatland management as a nature-based solution to halt biodiversity loss, support climate change adaptation, resilience and mitigation all the while supporting the wellbeing of communities living in peatland landscapes. In this policy briefing we have provided our rationale and recommendations to support why and how this can be achieved.

NRL Peatland Targets Analysis

Ambiguous Definitions and Unambitious Objectives

Art 9(4) of the NRL proposal divides targets for the management of organic soils in agricultural use into a broader spatial target for restoration measures and a sub-target for rewetting with deadlines of 2030, 2040 and 2050 e.g. *Member States shall put in place restoration measures. (a) 30 % of such areas by 2030, of which at least a quarter shall be rewetted*.

The absence of a clear distinction between rewetting, rehabilitation and restoration creates unnecessary ambiguity around the intention of the targets. According to the preamble, restoration measures for organic soils must only demonstrate an improvement in land use from an emissions / sustainability perspective stating that "*Member States can choose from a wide range of restoration measures for drained peatlands in agricultural use*". Our interpretation would be that this objective would be compatible with the objective of "*reduced management intensity (water table management)*" already contained within Ireland's national commitments within Ag Climatise[16] and the Climate Action Plan 2021[17].

There are no definitive objectives beyond the spatial targets for measures. In an Irish context where organic soils in agricultural use are almost exclusively grassland (Fig 1. 24% Grassland, 1% Cropland) this would most likely mean rewetting and rehabilitation measures such as extensification of agricultural activities, including reduced stocking levels and reduced drainage to raise the water table. This interpretation is in line with the list of suggested measures outlined in the preamble of the NRL - "*Member States can choose from a wide range of restoration measures for drained peatlands in agricultural use spanning from converting cropland to permanent grassland and extensification measures accompanied by reduced drainage, to full rewetting with the opportunity of paludicultural use, or the establishment of peat-forming vegetation*."

The chosen definition of rewetting within the footnotes of the preamble is unclear, only referring to the process of increasing the wetness of drained soil: "*Rewetting is the process of changing a drained soil into a wet soil*[18]". IPCC provides further detail: "*Rewetting is the deliberate action of raising the water table on drained soils to re-establish water saturated conditions, e.g. by blocking drainage ditches or disabling pumping facilities. Rewetting can have several objectives, such as wetland restoration or allowing other management practices on saturated organic soils such as paludiculture*." The rewetting sub-target lacks clear objectives, for example reducing GHG emissions or restoring peat forming conditions. The fact that the ultimate objective of the rewetting is not stated significantly reduces the implementability of the targets.

For drained organic soils, targets and definitions should be adopted which reflects the need to improve the structure and functions of the drained peatland with the aim of conserving or enhancing biodiversity and ecosystem resilience, with a particular emphasis on reducing GHG emissions through water table management. In this context the target for organic soils in agricultural use should be changed from restoration to rewetting or rehabilitation. Full restoration is likely to be an unrealistic target for highly degraded peatlands in agricultural use within the timescales outlined

by the NRL.

A more ambitious definition and targets should be adopted for peatland restoration which requires that restoration measures are put in place to restore peatlands to an active peat forming state.

Recommendations:

- **Under Art 9(4) the NRL should provide clear definitions and separate targets for both rewetting, rehabilitation and restoration of drained organic soils and peatland.**

Excessive flexibility threatens to undermine action on agricultural land

Another issue with the level of ambition in Art 9(4) is that Member States may also opt to offset targets for organic soils in agricultural use by availing of a loophole which allows for peat extraction restoration measures to offset the need to implement restoration measures or rewetting on agricultural organic soils - "*Member States may put in place restoration measures, including rewetting, in areas of peat extraction sites and count those areas as contributing to achieving the respective targets referred to in the first subparagraph, points (a), (b) and (c)*."

The level of ambition needed is further weakened by the fact that there is nothing stopping a direct overlap between Annex I peatland restoration targets outlined in Art 4(2) and restoration of peat extraction sites in Art 9(4) – Art 4(2) "*Member States shall put in place the restoration measures that are necessary to re-establish the habitat types listed in Annex I in areas not covered by those habitat types. Such measures shall be in place on areas representing at least 30 % of the additional overall surface needed to reach the total favourable reference area of each group of habitat types listed in Annex I, as quantified in the national restoration plan referred to in Article 12, by 2030, at least 60 % of that surface by 2040, and 100 % of that surface by 2050*."

Considering that the proportion of Ireland's peatlands is divided into 17% industrial extraction, 23% domestic extraction and 24% grassland (Fig. 1), theoretically Ireland could achieve all of its targets under Art 9(4) for 2030, 2040 and 2050 without actually restoring or rewetting any agricultural land. While some flexibility may be beneficial all sectors should have to play their part in restoring biodiversity and reducing GHG Emissions. We will explain later why this lack of ambition is not aligned with national climate policies.

Recommendation:

- **More ambitious targets are needed for the rewetting of drained organic soils in agricultural use and the restoration of degraded peatlands. If flexibility is allowed between restoration measures on peat extraction sites and the targets for agricultural land then safeguards should be included which ensure that minimal thresholds of ambition are met for both the rewetting and restoration of drained peatlands in agricultural use.**

- **The scope of Art 9(4) and the NRL should be expanded so that targets are set for the restoration and rewetting of drained peatlands under all land uses, not just drained peatlands in agricultural use. Given the different proportions of peatlands under different land uses across Member States, targets for all land use types will create a more level playing field across the EU.**

The NRL peatland targets need to be significantly strengthened to support national efforts

The policy context in Ireland

The Nature Restoration Law is supposed to be one of the cornerstones of the EUs Biodiversity Strategy for 2030 and the EU Green Deal, which is supposed to raise the ambition of Member States and restore nature across the EUs terrestrial and marine territories. The restoration of wetlands and peatlands is particularly important in the context of the EU Biodiversity Strategy as according to the European Commission protecting and restoring these habitats is a key nature-based solution that is "*essential for emission reduction and climate adaptation*[19]." The multiple benefits of peatland restoration are repeated numerous times in the preamble of the NRL such as "*significant biodiversity benefits, an important reduction of green-house gas emissions and other environmental benefits, while at the same time contributing to a diverse agricultural landscape restoration of these threatened habitats*."

At a national level there has been a strong negative reaction to the NRL proposal among some quarters, with the sentiment being that the targets for rewetting of organic soils in agricultural use in Art 9(4) are overly ambitious[20]. While the idea of rolling back on generations of land management is understandably an emotive issue, it is our assessment that in fact the NRL's targets up to 2030 are unambitious as they are overshadowed by the scale of necessary ambition emanating from national climate and biodiversity policy. To illustrate this point, it's worth considering the context of GHG emissions in Ireland's land use sector and comparing national targets for rewetting / emissions reductions to the NRL proposal.

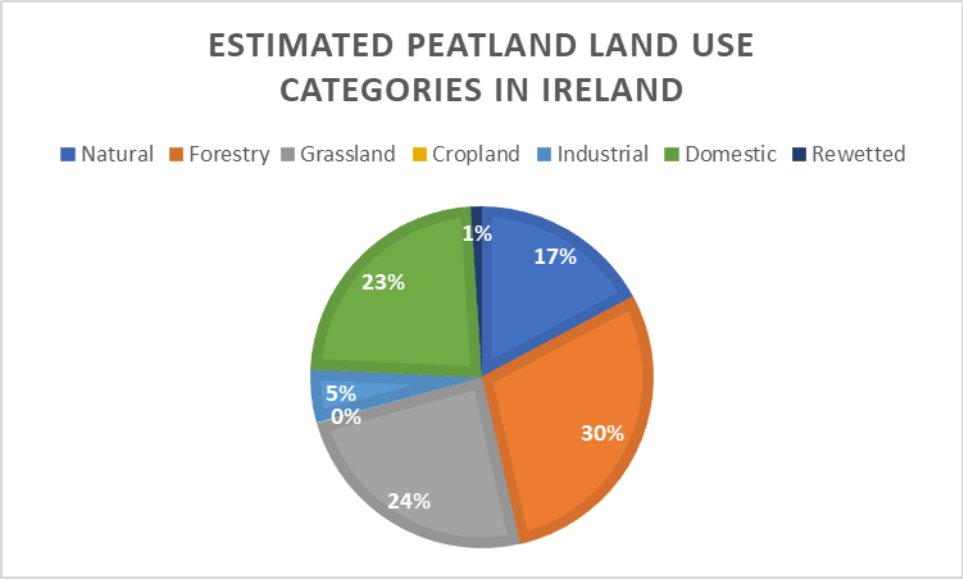

Figure 1. Estimated areas (ha) of peatland land use categories in Ireland. For grassland and domestic peat extraction area an average of the min and max range values was used (Source: Renou-Wilson, F. et al 2022)

In the most recent EPA inventory, Ireland land use sector or Land Use Land Use Change and Forestry (LULUCF) was a net source of 4.8Mt CO_2eq in 2018[10]. The most recent projections published by the EPA for LULUCF indicate that, with current policies and measures, net emissions for the sector will increase from 4.5 Mt CO_2eq in 2019 to 7.1Mt CO_2eq in 2030[21].

Grassland is the largest net source of emissions within the LULUCF sector, estimated at 7 Mt CO_2eq, in 2018. The main source of emissions is the drainage of an estimated 337 kha of organic soils, which emit 8.3 Mt CO_2eq[22]. Work by Teagasc[23] indicates that the area of grassland on drained peat soils could be 450,000 ha or 6% of the country[24] (slightly higher than the previous upper range estimates provided in Table 1) which would suggest that emissions from this land use category may be currently underestimated by 3 Mt CO_2eq.

Wetlands, including peatlands are a net source of emissions within the LULUCF sector, estimated at 2.5 Mt CO_2eq, in 2018. The main source of emissions is the drainage of an estimated 75.6 kha of peatland for peat extraction. Recent EPA research[25] on peatland properties influencing GHG emissions and removals highlight key areas where urgent intervention is needed to secure carbon sinks and enhance sequestration. Carbon stocks held in natural and managed peatlands in Ireland are estimated at 2216 Mt of carbon, with around 42% in raised bogs, 42% in lowland blanket bogs and 15% in mountain blanket bogs. Natural and cutover peatlands together contain just under half of the national peatland carbon stock. National emissions are estimated at around 860,000 tonnes of carbon per year (or 3.15 Mt CO_2 / yr). Importantly, GHG emissions from domestic (residential) peat extraction are strongly underestimated, highlighting the need for enhanced engagement, regulation and enforcement. Natural and cutover bogs hold just over half of all of the soil organic carbon stored in Irish peatlands, which represent two-thirds of the national soil carbon stock. According to the EPA this has major implications for policy decisions and requires an urgent suite of actions to **(1) ensure that these carbon stocks remain in the ground and (2) promote the development of carbon sinks in <u>all types of land use</u>.**

Irish peatlands and peat soils are the dominant soil type in Irish forests accounting for 38.7% of the total area[26]. Forestry covers 450,940 ha of peatlands in Ireland[27] with 60% of the forestry on peat being State owned[28], with Coillte being responsible for 232,500 ha of forestry on peatlands making them the largest owner of peatland habitat in Ireland[29]. The EPA calculate that forestry on organic soils may emit from 0.59 t C/ha/yr to 1.7 t C/ha/yr[30 31] which implies national emissions in the region of 0.2 Mt CO_2 / yr to 0.8 Mt CO_2 / yr. The legacy issues associated with the afforestation of peatlands have been largely ignored by policy makers in Ireland and, unfortunately are not addressed by the CCAC Carbon Budgets Technical report and national forestry policy. This is due mainly to the influence of the forestry sector over policy and the need for more research on the climate mitigation benefits of forest to bog restoration. Some Irish studies have unfortunately failed to consider the broader benefits of peatland restoration or have failed to consider the climate mitigation benefits of restored peatlands over the medium to long term[32], which is essential when considering the Global Warming Potential of short-lived and long-lived GHGs.

Table 1. Estimated areas (ha) of peatland land use categories in Ireland (Source: Renou-Wilson, F. et al 2022)

Land use category Area (ha)	Area (ha)	References
Natural	269,267	Wilson et al. (2013a)
Forestry	450,940	Duffy et al. (2020)
Agriculture		
Grassland	332,000 – 420,000	Duffy et al. (2020), Green (2020)
Cropland	1235	Donlan et al. (2016)
Peat extraction		
Industrial	80,000	Duffy et al. (2020)

Domestic	101,767 – 612,000	Malone and O'Connell (2009), Forest Service (2012)
Rewetted	21,000	Wilson et al. (2013a)

Comparing the ambition of the NRL to national targets for drained organic soils

The Climate Change Advisory Councils (CCAC) Carbon Budgets Technical report[10] clearly highlights that the rewetting of drained organic soils and peatland restoration must be a key government priority if Ireland is going to achieve **a 51% reduction in net emissions in the LULUCF sector.** This 51% reduction target still implies net emissions of 2.4Mt CO_2eq/yr in 2030. So, while challenging this target wouldn't even achieve carbon neutrality in a sector that should be a net sink for emissions. Table 2 provides a comparison between the rewetting of organic soils target for 2030 in the NRL and the national policy targets emanating from national climate policy. **As can be seen, the NRL's 7.5% rewetting target for 2030 is significantly lower than all of the targets proposed or adopted at a national level.** The CCAC rewetting target of 33% is a bare minimum if Ireland is to achieve the aforementioned 51% reduction in land use emissions by 2030. The Climate Action Plan 2021 and Ag Climatise Roadmap have already adopted rewetting targets for 2030 of 24% and 12% respectively. These targets were adopted by the government with the full cooperation of the Department of Agriculture Food and Marine and other relevant departments and stakeholders.

Table 2. Policy targets for drained organic soils in Ireland by 2030

Source	Target	Target	Deadline
Nature Restoration Law	Art 9(4) target for the rewetting of organic soils in agricultural use constituting drained peatlands is **7.5%** rewetting target by 2030.	7.5%	2030
CCAC Illustrative Scenario	337,000 ha of drained organic soils of which the 110,000 ha should be rewetted by 2030, which equates to a **33%** rewetting target by 2030.	33%	2030
ClimAP 2021	Reduced management intensity (water table management) of 80,000 hectares on drained organic soils by 2030. Based on an assumed area of 337,000 ha this equates to a **24%** rewetting target by 2030.	24%	2030
Draft ClimAP 2023	At least 80,000 ha per annum of reduced management intensity of grasslands on drained organic soils (direct savings of 0.88 Mt CO_2eq in 2030). Based on an assumed area of 337,000ha this equates to a **24%** rewetting target by 2030.	24%	2030
Ag Climatise Roadmap	Under the Ag Climatise Roadmap, there is a target to reduce the management intensity of at least 40,000 ha of peat based agricultural soils to reduce CO_2 emissions. Based on an assumed area of 337,000 ha, if the 40,000 ha were to be fully rewetted, it would equate to a **12%** rewetting target by 2030.	12%	2030

Comparing the ambition of the NRL to national targets for peatland restoration

In 2016 a comprehensive policy evaluation[33] of the EU's Birds and Habitats Directives was concluded. It examined the performance of these Nature laws against five criteria: effectiveness, efficiency,

relevance, coherence and EU added value. The evaluation showed that the laws were fit for purpose and have already delivered positive benefits for Nature, "*but achievement of their objectives and realisation of their full potential will depend upon substantial improvement in their implementation both in relation to effectiveness and efficiency*." One of the objectives of the NRL is to provide a framework for Member States to deliver a substantial improvement in the implementation of the existing legal obligations under the Birds and Habitats Directives. Article 4(2) of the NRL does just that by providing targets and timelines for the implementation of restoration measures for Annex I habitat - "*Member States shall put in place the restoration measures that are necessary to re-establish the habitat types listed in Annex I in areas not covered by those habitat types. Such measures shall be in place on areas representing at least 30% of the additional overall surface needed to reach the total favourable reference area of each group of habitat types listed in Annex I, as quantified in the national restoration plan referred to in Article 12, by 2030, at least 60 % of that surface by 2040, and 100 % of that surface by 2050*."

Article 4(2) is relevant to a number of Annex I peatlands in Ireland such as Raised Bog (active), Degraded raised bog. For theses habitats Ireland has adopted site-specific conservation objectives and through the National Raised Bog Special Areas of Conservation Management Plan[34] and the National Peatlands Strategy 2015-2025[35]. Ireland is actively implementing restoration measures designed to achieve favourable reference area and favourable conservation status. Therefore, the targets outlined in the NRL are unlikely to have any impact on the adopted strategy. For other Annex I habitats such as bog woodland the national targets already adopted for the rehabilitation of cut-over bog will likely dwarf the targets within the NRL. We have outlined some of Ireland's existing targets for peatlands restoration in Table 3 to illustrate this point.

Table 3. Policy targets for peatland rehabilitation in Ireland by 2030

Source	Target	Deadline
CCAC Illustrative Scenario	The Climate Change Advisory Council illustrative scenario assumes 90% of peatlands currently used for peat extraction are rewetted.	2030
Draft ClimAP 2023	45,000 ha of Bord na Móna and LIFE peatlands will be rehabilitated (direct savings of 0.30 Mt CO_2eq in 2030) and a further 20,000 ha of peatlands (direct savings of 0.20 Mt CO_2eq in 2030). Total area to be rehabilitated 65,000 ha.	2030
Peatland Climate Action Scheme	The Peatland Climate Action Scheme will fund Bord na Móna to carry out enhanced peatland decommissioning, rehabilitation and restoration measures on peat extraction sites, targeting circa 33,000 ha between 2021 and 2025.	2025

Based on our analysis of Ireland's existing commitments for the rewetting of organic soils and the rehabilitation or restoration of peatlands, it is clear that the **existing national commitments up to 2030 are far greater than what is proposed in the Nature Restoration Law. Therefore, it's irrational for Ireland to oppose the NRL based on the ambition of its targets.** Looking beyond 2030, the flexibility provided by Art9(4), which allows for rewetting of peat extraction sites and restoration measures to offset targets on agricultural land also highlights how modest the targets are for drained organic soils.

Additionally, it should be noted that according to the CCAC in order for net emissions for LULUCF to achieve a 51% reduction, current annual afforestation rates of approximately 2,500 ha/yr would need to be increased rapidly to a target of 20,000 ha/yr in 2028 and continuing thereafter up to

2050. Forestry in Ireland constitutes a permanent land use change and, in most instances, would mean an end to farming. In contrast, ongoing agricultural activities are possible on rewetted farmland[8]. Therefore, it could be argued that rewetting is actually less disruptive to farming than many of the Irish government's existing agricultural and land use policies.

Recommendation:

- **Ireland should advocate for a more ambitious NRL that contributes to the implementation of national targets and creates a level playing field with other Member States.**
- **Ireland should support increased ambition within the targets for the rewetting of organic soils and the rehabilitation or restoration of peatlands, at the very least ensuring that the EU targets are consistent with achieving a 51% reduction in net emissions in Ireland's LULUCF sector.**

We also support the recommendation in the joint NGO analysis[36] by BirdLife International, Client Earth, European Environmental Bureau and the World Wildlife Fund for Nature, that:

- **The ambition level of the targets is too low and the bulk of restoration action is postponed to 2040 and even 2050, which is not in line with the urgency of tackling both the nature and climate crises. The percentage targets for the different milestones in Art. 4 and 5 should therefore be increased significantly and the timeline to reach 100% (and not only 90% as mentioned in the proposal), brought forward.**

Concerns around socio-economic impacts

There are understandably concerns around the socio-economic impact of measures which may involve reducing stocking rates on some rewetted land parcels. These concerns are being further magnified by the lack of clarity around the targets, how they will be implemented and the state's poor track record when it comes to engaging communities effectively in peatland restoration[37]. Some farmers who place a high degree of importance on productivity over other public goods provided by sustainable farming will view actions such as reduced drainage as a retrograde step. However, raising the water table even by small increments can greatly reduce GHG emissions without necessarily halting productive farming activity[8] [38]. It's important that there is engagement around these concerns so that farmers are part of the solution. Based on the scale of the challenge presented by climate change and biodiversity loss we have no option but to tackle these difficult issues head on.

Recommendation: It is essential that farmers and rural communities are central in shaping and driving all of the measures required under the Nature Restoration Law and national land use policy. Communities and landowners must be involved in decision making through early and sustained engagement. Wherever possible management interventions should look to deliver multiple environmental and social benefits and reward practitioners for the ecosystem services provided.

We have already described how rewetting is a necessary policy response but at a macro level it is also a rational policy position from an economic perspective. The EU has recognised that natural capital investment, including restoration of carbon-rich habitats and climate friendly agriculture, is among the five most important fiscal recovery policies, which offer high economic multipliers and positive climate impact[39]. The European Commission have accompanied their NRL proposal with a

twelve-part impact assessment. This includes further detail of the costs and opportunities associated with the restoration targets[40]. Their assessment of the annual costs and benefits as a share of GDP and per citizen of nature restoration per Member State clearly show that the benefits far outweigh the costs (Table 4). Of the twenty-six Member States assessed Ireland ranks fifth overall in terms of benefits per citizen in euros.

They also calculate that the monetised benefits for carbon storage and sequestration from peatland restoration are estimated at €10.6 to €13.0 billion, outweighing the estimated costs of full ecosystem recovery (i.e. to good status), estimated at €4.8 to 5.1 billion, and have a benefit cost ratio ranging from 2.2 to 2.5. If overall ecosystem service benefits for restored peatland and marshland are applied, the estimated net benefits increase markedly (€45.1 to €55.3 billion), with a benefit cost ratio of between 7.1 and 8.3 for peatland and between 1.8 and 2.1 for marshland.

Table 4. Overview of annual costs and benefits as share of GDP and per citizen (Source: NRL Impact Assessment Part 1/12)

Member State	Benefits (million €)	Costs (million €)	Benefits / GDP	Costs / GDP	Benefits / Citizen (€)	Cost / Citizen (€)	Benefits / Costs (GDP)	Benefits / Citizen vs AVR	Cost / Citizen compared AVR
AT	774	65	0.20%	0.02%	87	7	10	0.36	0.30
BE	631	65	0.14%	0.01%	55	6	14	0.23	0.26
BG	630	69	1.03%	0.11%	91	10	9.4	0.38	0.43
CY	38	7	0.18%	0.03%	42	8	6	0.18	0.34
CZ	361	41	0.17%	0.02%	34	4	8.5	0.14	0.17
DE	2595	190	0.08%	0.01%	31	2	8	0.13	0.09
DK	3171	176	1.01%	0.06%	543	30	16.8	2.26	1.28
EE	449	38	1.67%	0.14%	338	29	11.9	1.41	1.24
ES	7939	1451	0.71%	0.13%	168	31	5.5	0.70	1.32
FI	9694	931	4.11%	0.39%	1752	168	10.5	7.30	7.17
FR	14618	2060	0.63%	0.09%	217	31	7	0.90	1.32
GR	541	34	0.33%	0.02%	51	3	16.5	0.21	0.13
HR	622	63	1.24%	0.13%	154	16	9.5	0.64	0.68
HU	1392	133	1.02%	0.10%	143	14	10.2	0.60	0.60
IE	1922	134	0.52%	0.04%	384	27	13	1.60	1.15
IT	2424	261	0.15%	0.02%	41	4	7.5	0.17	0.17
LT	1081	80	2.18%	0.16%	571	42	13.6	2.38	1.79
LU	32	5	0.05%	0.01%	50	7	5	0.21	0.30
LV	611	54	2.07%	0.18%	323	29	11.5	1.35	1.24
MT	2	0	0.02%	0.00%	4	1	20	0.02	0.04
NL	1056	53	0.13%	0.01%	60	3	13	0.25	0.13
PL	5981	545	1.14%	0.10%	158	14	11.4	0.66	0.60
PT	915	149	0.46%	0.07%	89	14	6.6	0.37	0.60
SE	5881	638	1.24%	0.13%	567	61	9.5	2.36	2.60
SI	415	63	0.88%	0.13%	197	30	6.8	0.82	1.28
SK	473	98	0.51%	0.11%	87	18	4.6	0.36	0.77
Average	2471	285	0.84%	0.09%	240	23	10		

Drained peatlands are typically marginally productive from an agricultural perspective with farm incomes being heavily dependent on public support through the Common Agricultural Policy. While these lands may be marginal from a food production perspective they are extremely rich in the public goods they can provide such as carbon sequestration, biodiversity and flood attenuation[41]. This is reflected in Fig. 2 which shows the direct overlap between (A) peat soils (grey) and soils with poor drainage (dark green); (B) High Nature Value farmland (green) and (C) soils with high organic carbon (grey and red).

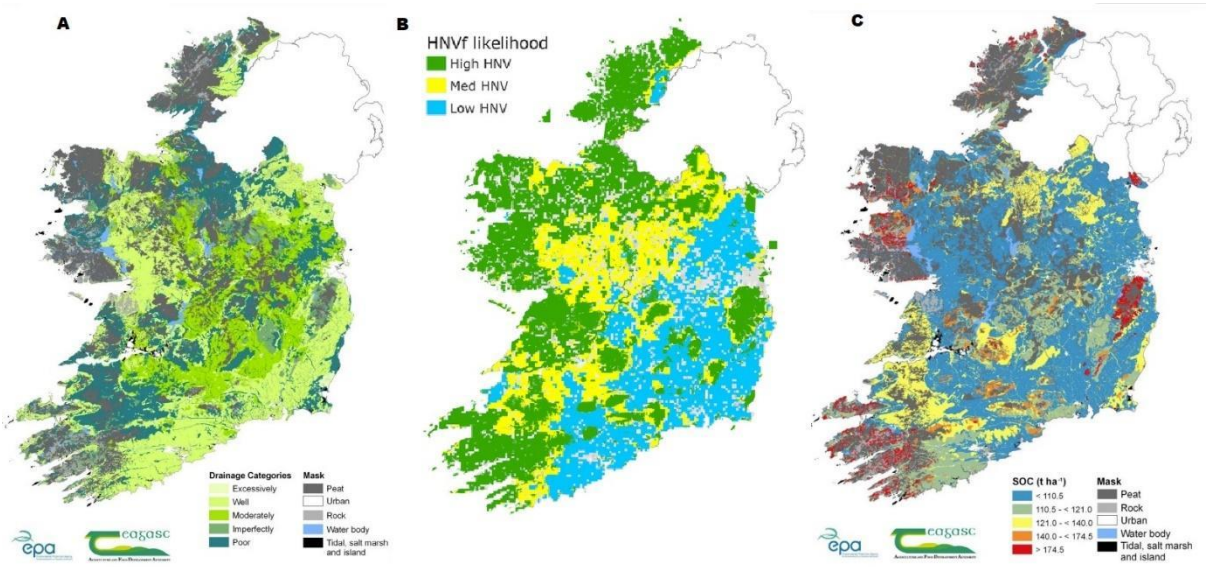

Figure 2 A) Indicative soil drainage map of agricultural soils in Ireland[42]. B) Extent and distribution of high nature value farmland in the Republic of Ireland (b) Natura 2000 network in the Republic of Ireland[43]. C) Indicative soil organic carbon stock map of agricultural soils (0–50cm)

By using tailored agri-environmental schemes Ireland could be a leader in climate-smart land use, rewarding farmers for the delivery of synergetic environmental benefits such as carbon sequestration, biodiversity and other ecosystem services[37]. HNV farmlands are vulnerable to socioeconomic changes that lead to either agricultural intensification or land abandonment[44]. Given that many farms on marginal land are dependent on public support, Article 9(4) should be viewed as an opportunity to provide targeted financial support to farmers.

Investing in agri-environmental measures in particular is an excellent way to support High Nature Value farming systems. This is illustrated in BirdWatch Ireland's assessment[45] of the Common Agricultural Policy (CAP) beneficiary's database[46], which highlighted the proportion of farmers drawing down payments for measures associated with 'Improving the Environment and Countryside' in 2016 on a county-by-county basis (Fig 3a). When compared to the average payment per county to CAP beneficiaries (under Pillar 1 and/or Pillar 2)(Fig 3b). This demonstrates a clear national divide between the amount of public funding versus the delivery of public goods. This suggests that by targeting investment towards the delivery of results-based schemes that support rewetting we can deliver public goods to society and financial support to the parts of rural Ireland that need it the most. Instead of viewing rewetting as a burden imposed on farmers from Europe we should view the NRL as an opportunity to improve land use management, support family farm livelihoods in marginal areas while delivering a range of actions that national policy has already identified as necessary.

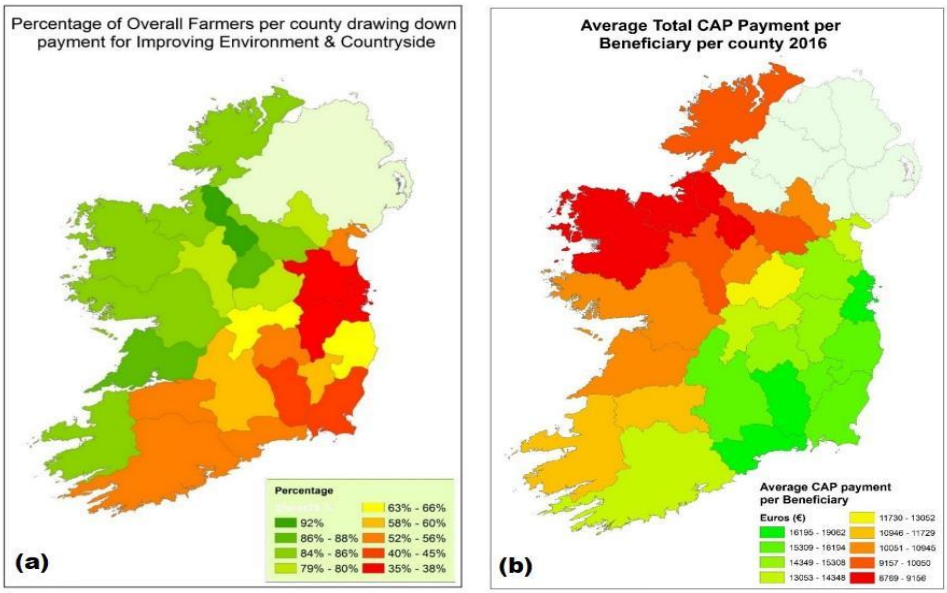

Fig 3. (a) Number of farmers (as percentage) drawing down payments from CAP in 2016 for Improving Environment and Countryside as a percentage of overall farmer numbers (farmer numbers derived from the CSO farm census 2010); (b) Displays the average total CAP payment received by individual beneficiaries in each county of Ireland for 2016

We know that extensive farming enterprises can be profitable if given the right financial support. Comparing the average income of common farming enterprises[47] which are generally found on organic soils in Ireland, to the general max payment and co-operation max payment available through the Agri-Climate Rural Environment Scheme (ACRES)[48] which is available to farmers under the current CAP, further highlights the value of agri-environmental schemes relative to farm income (Fig 4). Given the enhanced payments available under the new Organic Farming Scheme[49] a farmer who qualifies for both maximum payment under ACRES and the Organics payment will be earning more than the average sucker, beef finisher or sheep farmer with lower input costs.

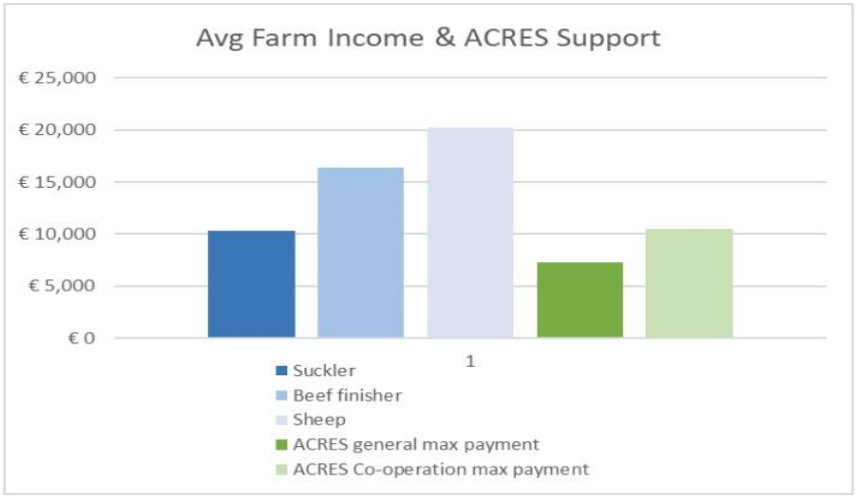

Figure 4. Comparing the average income of suckler, beef finisher and sheep farmers to the general max payment and co-operation max payment available through the Agri-Climate Rural Environment Scheme (ACRES).

The mechanisms to deliver targeted support to farmers for the delivery of public goods are already well developed through the leading role Ireland has played in the evolution of locally led result-based agri-environment schemes[50]. These schemes are output based systems and are based on the principle of payment for results. Farmers decide how they want to balance environmental productivity and commercial productivity on their farms and the schemes ensure that the public goods that are delivered in the form of Nature are rewarded. This approach is important because it empowers landowners and delivers measurable benefits for nature and value for public investment. One famous example of this is the Burren Programme, which has been working with farmers in the Burren since 2005[51]. Within the current CAP the FarmPEAT (Farm Payments for Ecological and Agricultural Transitions) Project is developing a locally-led, innovative, results-based farm scheme for farmers who manage lands that surround raised bogs habitats in the midlands. The programme is already rewarding farmers for improved management of habitats on peat soils and it is hoped that the programme will form a basis for future agri-environmental schemes in these areas.

We already know that farmers can make a living by changing their focus from the delivery of food to the delivery of public goods. We also know that the blueprint to deliver rewetting is in place in the form of locally led result-based agri-environment schemes and is being tested through projects such as FarmPEAT. The question then should be how do we fund rewetting at scale. The Environmental Pillar highlighted in our submissions to Ireland's CAP Strategic Plan (worth almost €10 billion)[52] that an ambitious scheme was needed within the next CAP 2023-2027 to support the rewetting of organic soils. Unfortunately, we were ignored but future MFF allocations and national funding is a logical way to fund rewetting. The EU's Just Transition Mechanism (JTM) has already allocated €55 billion over the period 2021-2027, to alleviate the socio-economic impact of the transition to a climate neutral economy[53]. National funding mechanisms such as the Climate Action Fund and the National Just Transition Fund should also be availed of and co-financing mechanisms such as the EU's LIFE programme. A new EU Nature Restoration Fund should also be considered.

Recommendations:

- **Ireland should be a leader in climate-smart land use, using tailored agri-environmental schemes to reward farmers for the delivery of synergetic ecosystem services such as carbon sequestration and biodiversity.**
- **Ireland should work with the European Commission and other Member States to develop a road map for delivering the NRLs targets using all available financial instruments.**
- **Whatever the mechanism, increased financial support will be required and it will have to deliver long term support compatible with the long-term commitment required to deliver improved land management.**

Annex

Peatland Restoration Targets within the NRL

Preamble - Regulation of the European Parliament and of the Council on nature restoration

(54) Restoration and rewetting[54] of organic soils[55] in agricultural use (i.e. under grassland and cropland use) constituting drained peatlands help achieve significant biodiversity benefits, an important reduction of green-house gas emissions and other environmental benefits, while at the same time contributing to a diverse agricultural landscape. Member States can choose from a wide range of restoration measures for drained peatlands in agricultural use spanning from converting

cropland to permanent grassland and extensification measures accompanied by reduced drainage, to full rewetting with the opportunity of paludicultural use, or the establishment of peat-forming vegetation. The most significant climate benefits are created by restoring and rewetting cropland followed by the restoration of intensive grassland. To allow for a flexible implementation of the restoration target for drained peatlands under agricultural use Member States may count the restoration measures and rewetting of drained peatlands in areas of peat extraction sites as well as, to a certain extent, the restoration and rewetting of drained peatlands under other land uses (for example forest) as contributing to the achievement of the targets for drained peatlands under agricultural use.

(55) In order to reap the full biodiversity benefits, restoration and rewetting of areas of drained peatland should extend beyond the areas of wetlands habitat types listed in Annex I of Directive 92/43/EEC that are to be restored and re-established. Data about the extent of organic soils as well as their GHG emissions and removals are monitored and made available by LULUCF sector reporting in national GHG inventories by Member States, submitted to the UNFCCC. Restored and rewetted peatlands can continue to be used productively in alternative ways. For example, paludiculture, the practice of farming on wet peatlands, can include cultivation of various types of reeds, certain forms of timber, blueberry and cranberry cultivation, sphagnum farming, and grazing with water buffaloes. Such practices should be based on the principles of sustainable management and aimed at enhancing biodiversity so that they can have a high value both financially and ecologically. Paludiculture can also be beneficial to several species which are endangered in the Union and can also facilitate the connectivity of wetland areas and of associated species populations in the Union. Funding for measures to restore and rewet drained peatlands and to compensate possible losses of income can come from a wide range of sources, including expenditure under the Union budget and Union financing programmes.

Article 4 - Restoration of terrestrial, coastal and freshwater ecosystems

Member States shall put in place the restoration measures that are necessary to re-establish the habitat types listed in Annex I in areas not covered by those habitat types. Such measures shall be in place on areas representing at least 30% of the additional overall surface needed to reach the total favourable reference area of each group of habitat types listed in Annex I, as quantified in the national restoration plan referred to in Article 12, by 2030, at least 60 % of that surface by 2040, and 100 % of that surface by 2050.

Article 9 - Restoration of agricultural ecosystems

4. For organic soils in agricultural use constituting drained peatlands, Member States shall put in place restoration measures. Those measures shall be in place on at least: (a) 30 % of such areas by 2030, of which at least a quarter shall be rewetted; (b) 50 % of such areas by 2040, of which at least half shall be rewetted; (c) 70 % of such areas by 2050, of which at least half shall be rewetted.

Member States may put in place restoration measures, including rewetting, in areas of peat extraction sites and count those areas as contributing to achieving the respective targets referred to in the first subparagraph, points (a), (b) and (c).

In addition, Member States may put in place restoration measures to rewet organic soils that constitute drained peatlands under land uses other than agricultural use and peat extraction and

count those rewetted areas as contributing, up to a maximum of 20%, to the achievement of the targets referred to in the first subparagraph, points (a), (b) and (c).

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