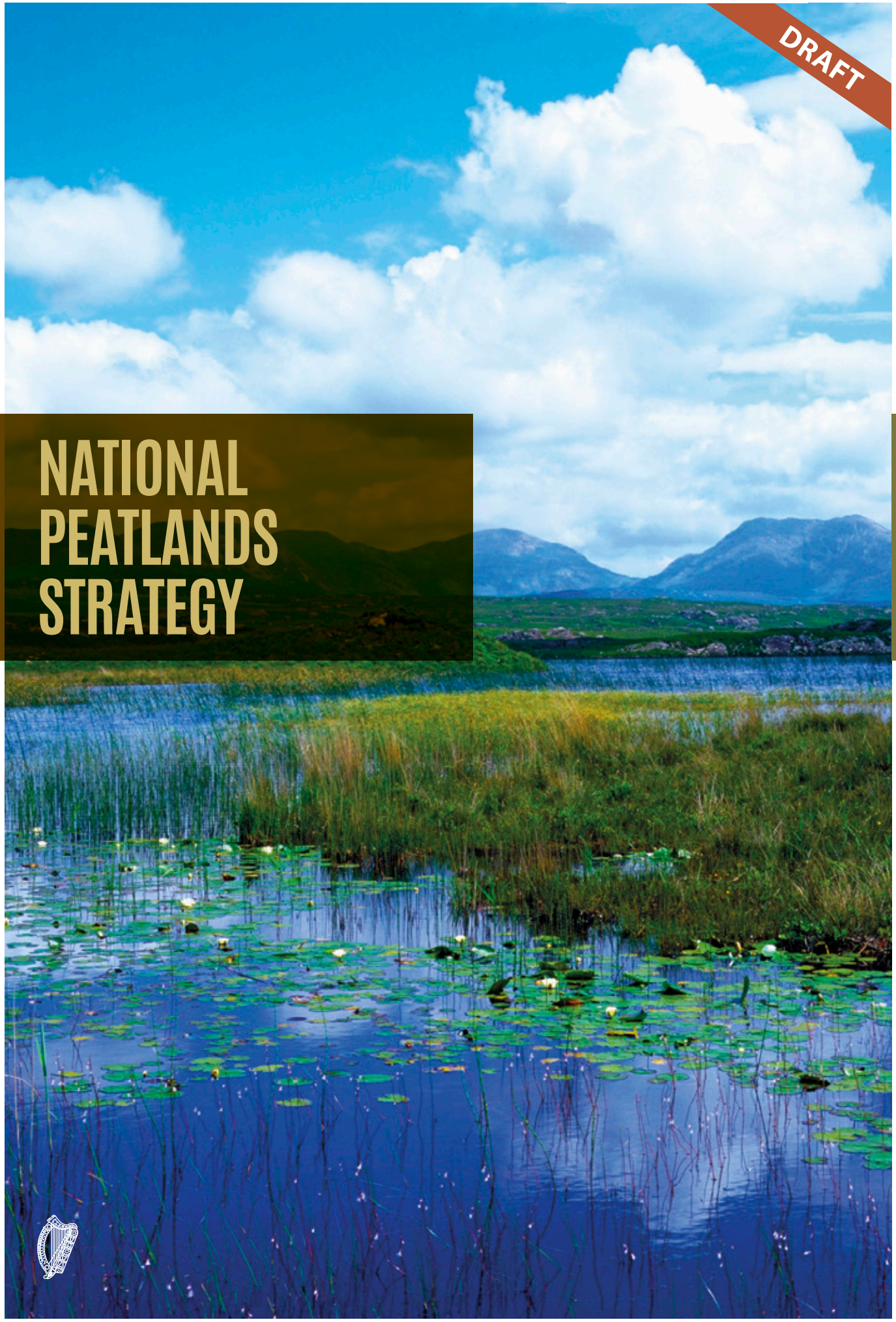

NATIONAL PEATLANDS STRATEGY

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Photographs courtesy of:
NPWS, Bórd na Mona, Coillte, RPS, Department of Agriculture, Food and the Marine, Friends of the Irish Environment and the IPCC.

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PART 1

1 SCOPE AND EXECUTIVE SUMMARY

In April 2011 the Government made a number of key decisions relating to the conservation and management of Ireland's peatlands, particularly those sites nominated for designation as Special Areas of Conservation and Natural Heritage Areas.

A commitment was made to draw up a national strategy on peatlands conservation and management, in consultation with bog owners and other stakeholders, to deal with long-term issues such as land management & development, restoration, conservation, tourism potential, carbon accounting and community participation in managing this resource.

The independently chaired Peatlands Council was established to assist the Government and stakeholders regarding certain issues related to the management of Ireland's peatlands and was specifically requested to oversee the drafting of a National Peatlands Strategy.

The Strategy is required to give direction to Ireland's approach to peatland management and how to optimise the benefits derived from our vast peatland resource over the coming decades. The term Eco-system services is used to describe the range of benefits that peatlands provide for human well-being. Some of these are obvious and others less so. Some are traditionally recognised benefits and others are emerging. Gaining a sense of the true value and potential of our peatlands requires consideration of a wide range of issues including current and possible land-uses and the implications of such uses.

The direction Ireland takes in managing its peatland resource will be informed by best scientific knowledge. Extensive research on the role and functioning of peatlands has been undertaken and further work is ongoing. Further areas of research have been identified as part of this strategy. The future use of Ireland's peatlands will also be influenced by national, EU and international legal considerations and obligations.

The objective of the Peatlands Strategy is to set down a vision, values and principles which will guide Government policy in relation to all peatlands. These will be applied through their incorporation into the more detailed sectoral plans, policies and actions adopted and undertaken for each policy area.

The Strategy applies to all peatlands, including peat soils. This stretches to 1.47m hectares. The strategy is aimed at peatland owners, users and the broader community which benefits from the services that peatlands provide. It is also aimed at policy and decision makers.

The choices that are made in peatland management can contribute to or detract from the achievement of objectives and obligations for the common good entered into by the State under International agreements, EU and national law. Water quality, flood control, fisheries, rivers streams and lakes, protected wildlife, air quality and climate change will be affected in different ways, depending on the choices that are made. This Strategy aims to ensure that the relevant State authorities and state owned companies that influence such decisions contribute to meeting cross-cutting objectives and obligations in their policies and actions.

The strategy recognises that Ireland's peatlands will continue to contribute to a wide variety of human needs

and to be put to many uses. It aims to ensure that Ireland's peatlands are sustainably managed so that their benefits can be enjoyed responsibly. It aims to inform appropriate regulatory systems to facilitate good decision making in support of responsible use. It also aims to inform the provision of appropriate incentives, financial supports and disincentives where required.

Turf cutting by citizens for their own domestic fuel needs is a valued traditional activity across many peatlands. In many areas, such activity can continue into the future. However, where turf cutting conflicts with conservation objectives and obligations on the State, it will need to be curtailed. This Strategy aims to ensure that where this is necessary, in the interests of the common good, the rights of turf-cutters are fully addressed through compensation or relocation.

A proportion of Ireland's bogs are protected within Special Areas of Conservation. A deterioration of these sites since they were nominated for designation and infringement action being brought against Ireland require more effective protection and regulation of potentially damaging activities. A way forward is provided for as part of this Strategy. The draft National Raised Bog SAC Management Plan has been published along with this Strategy.

A comprehensive review of raised bog Natural Heritage Areas (NHAs) and undesignated raised bogs has informed a radical reconfiguration of our network of NHAs. This will provide for significantly improved conservation outcomes while avoiding areas that are subject to significant turf-cutting. It will markedly reduce costs for the taxpayer. A number of Bord na Móna owned bogs which have been subject to focused conservation and restoration effort by the Company, will be included in the NHA network. Other sites of conservation value where there is little or no turf-cutting pressure will also be included. It is anticipated that many sites that are currently raised bog Natural Heritage Areas will be de-designated as part of this process. This will also assist in underpinning protection of raised bog SACs.

The strategy aims to provide a framework for determining and ensuring the most appropriate future use of cutover and cutaway bogs. It also proposes a new direction for the regulation of turf-extraction generally, which is currently subject to planning law and Integrated Pollution Control licensing.

The Strategy aims to ensure that specific actions necessary for the achievement of its objectives are clearly identified and delivered by those involved in or responsible for peatlands management or for decisions affecting their management. The Strategy contains some specific actions to this end but additional actions will emerge through further sector or issue-specific considerations, plans or strategies that are required. An implementation structure is proposed involving an inter-departmental Peatlands Strategy Implementation Group, which will work under the Chair of the Peatlands Council.

Responsible management of peatlands will require collaboration and partnership between land-owners, communities, public authorities, commercial organisations and non-governmental organisations. This Strategy aims to ensure that appropriate supports, structures, funding mechanisms and regulatory frameworks are in place to allow such partnerships to develop.

The importance of responsible peatlands management and how it can impact on the wider community is not widely understood or appreciated by the general public. This strategy aims to increase awareness and understanding by the public, by land owners and by decision makers of the value of peatlands and the implications of good and bad management practices.

A draft screening report for SEA purposes and for Appropriate Assessment is set out in Appendix VIII.

Share your views

Views were previously sought on the scope of the Strategy. Over 400 submission were received and these have been considered in its drafting. A summary of the substantive submissions received are outlined at Appendix II.

We are now seeking your views on this draft. Does the draft Strategy adequately address all relevant issues? Is there more that could be included or are certain elements not relevant? Are there issues that you think should be addressed or prioritised as the Strategy is being implemented?

Written submission will be accepted up to 18 April, 2014. And can be sent to:

Peatlands Policy Unit
Department of Arts, Heritage, and the Gaeltacht
7 Ely Place
Dublin 2

Or by e-mail to:

peatlandssubmissions@ahg.gov.ie

THIS IS YOUR STRATEGY, HAVE YOUR SAY.

Cuirfear fáilte roimh comhfhreagras i nGaeilge.

2 INTRODUCTION: THE CHANGING VIEW OF IRISH PEATLANDS

Peatlands are wetland ecosystems that are characterised by the accumulation of organic matter called peat which derives from dead and slowly decaying plant material under wet conditions. Irish peatlands are principally **bogs** with a small proportion of **fens**. Both bogs and fens appear in natural condition but the majority has been man-modified.

Fens are peatlands that in addition to precipitation also receives water that has been in contact with mineral soil or bedrock.

Bogs are peatlands only fed by precipitation and consequently generally nutrient poor and acid. Bogs are further divided into raised bogs (less than a third of the bog area) and blanket bogs forming the main category of peatlands in Ireland.

A **raised bog** is a bog shaped like a dome or elevated above the surrounding land and which only receives water from the atmosphere. These are found in the Irish midlands where glacial lakes were once present.

A **blanket bog** is a bog that covers the underlying undulating landscape like a blanket. **Atlantic blanket bogs** are the main category and are particularly well developed in Counties Donegal, Mayo, Galway, Kerry, Clare and Sligo. **Mountain blanket bogs** are more widely distributed in hilly terrain (elevation above 200m).

2.1 Traditional Uses and Values

Peatlands have been in the Irish landscape since the last Ice Age and, together with remnants of primeval forests, they form our oldest surviving ecosystems. Irish peatlands are the country's last great area of wilderness, hovering between land and water, providing unusual habitats for their unique and specialist flora and fauna. They cover a large area of the land surface, occurring as raised bogs, blanket bogs or fens and form distinctive landscapes in many parts of the country.

Irish people have been closely connected to peatlands by a long history of cultural and economic development. The extraction of peat for fuel grew in importance as our native forests were lost and generations of Irish families have relied on turf as their only source of heat. Peatlands have developed over millennia, creating an important economic raw material on which the livelihoods of certain rural populations have critically depended.

Peatlands have been used for afforestation, domestic and industrial turf-extraction, grazing and agricultural reclamation and have been used for various types of infrastructural development. Ireland's peatlands can continue to host such activities into the future.

In the 20th century large-scale peat production on raised and blanket bogs was undertaken by Bord na Móna, which was established by the State for that purpose and which is now focused mainly on the drained, raised bogs of the Irish midlands. These activities have contributed significantly to economic development by supporting employment both directly and indirectly as well as providing a secure source of indigenous energy.

Many Irish peatlands were also drained and reclaimed for agricultural use and forestry.

More recently, there has been a growing awareness and appreciation amongst policy makers and the general public of the other values of functioning bogs and the benefits that they provide.

2.2 A new understanding

The State for much of its history has encouraged the exploitation of Ireland's peatlands, including as recently as the 1980s where subsidies were provided for the redevelopment of private bogs. At about the same time, in line with a growing international realisation of the importance of protecting the earth's biological and ecological resource, it was realised that Ireland was in danger of losing much of its remaining intact peatlands to exploitation. This led the State to identify the most important peatlands for protection.

The Areas of Scientific Interest then identified laid the foundations for the later designations of Special Areas of Conservation under the Habitats Directive and Natural Heritage Areas under the Wildlife Acts. The largest remaining intact or semi-intact raised bogs were found in the east midlands (Longford, Kildare, Laois & Offaly). When these sites were nominated for designation a significant number of them were to a large extent owned by Bord na Móna (see Appendix IX) or the Land Commission. Bord na Móna had acquired these sites for commercial exploitation. Ownership of these lands was transferred to the State (now the Minister for Arts, Heritage and the Gaeltacht) for conservation purposes, with the agreement of Bord na Móna and the Land Commission.

However, the process of identifying raised bogs for protection revealed that many of the more intact bogs were smaller, less attractive for major industrial extraction, and located in more westerly areas such as east Galway and Roscommon. Many of these were owned privately or were subject to turbary rights granted by the Land Commission. In seeking to protect Ireland's natural peatland heritage and fulfil our legal obligations under the Habitats Directive it was necessary to protect the best of these sites within Ireland's Special Areas of Conservation and Natural Heritage Areas.

Separate from the raised bogs, the blanket bogs of the western seaboard and hillsides are also of significant ecological and landscape value. They also remain an important source of domestic fuel in these areas.

Finally, fens are peatlands that formed from vegetation receiving a constant influx of groundwaters. Natural fens are rare, as 97% of the country's fens have been drained for agriculture.[1] The best examples of Ireland's remaining fens are within Special Areas of Conservation that have been selected for their protection.

1 Foss, P. (2007). Study of the extent and conservation status of springs, fens and flushes in Ireland 2007. Internal Report for the National Parks and Wildlife Service. Dublin, Department of the Environment, Heritage and Local Government, Ireland: 142.

EU BIODIVERSITY POLICY[2]

In March 2010, EU leaders recognised that the 2010 biodiversity target would not be met despite some major successes, such as establishing Natura 2000, the world's largest network of protected areas. They therefore endorsed the long-term vision and ambitious headline target proposed by the Commission in its Communication "Options for an EU vision and target for biodiversity beyond 2010".

2050 VISION

By 2050, European Union biodiversity and the ecosystem services it provides – its natural capital – are protected, valued and appropriately restored for biodiversity's intrinsic value and for their essential contribution to human wellbeing and economic prosperity, and so that catastrophic changes caused by the loss of biodiversity are avoided.

2020 HEADLINE TARGET

Halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss.

THE GLOBAL MANDATE

The tenth Conference of the Parties (CoP10) to the Convention on Biological Diversity (CBD), held in Nagoya in 2010, led to the adoption of a global Strategic Plan for biodiversity 2011-2020, and a strategy to mobilise resources for global biodiversity.

The EU 2020 biodiversity strategy responds to both mandates, setting the EU on the right track to meet its own biodiversity objectives and its global commitments.

GREEN INFRASTRUCTURE (GI) ENHANCING EUROPE'S NATURAL CAPITAL

Green Infrastructure is based on the principle that protecting and enhancing nature and natural processes, and the many benefits human society gets from nature, are consciously integrated into spatial planning and territorial development. The European Commission has identified that GI can contribute significantly to achieving many of the EU's key policy objectives.

The Commission has undertaken (together with the European Investment Bank) to set up an EU financing facility for GI by 2014 to support people who are seeking to develop GI projects.

2.3 Ecosystem Services Seeking Balance Between Traditional and Hidden Values

Almost unnoticed, peatlands have also been providing us with other "hidden" benefits that have often not been factored into decision making.

The term "ecosystem services" is used to describe the range of benefits that arise and can be derived from a natural system. For example a forest is an ecosystem that can provide wood for fuel and for construction, species that can be hunted for food as well as fruit for nutrition. Forests are also important for soil protection, play key roles in climate and water regulation and are also important amenity areas. Similarly, peatlands are biological resources forming distinct ecosystems of local and national importance. Unlike forestry however, peat is not renewable on a human time scale.

Peatlands provide a range of ecosystem services, many of which, such as agriculture, turf for domestic heating, peat for electricity generation and employment from industrial production are apparent and some of which are less so.

Natural peatlands are considered amongst the most important ecosystems of the world, because of their key value for biodiversity, regulation of climate, water filtration and supply, and important support for human

2 http://ec.europa.eu/environment/nature/biodiversity/comm2006/pdf/2020/1_EN_ACT_part1_v7[1].pdf

welfare (e.g. source of well-being and knowledge). In addition, peatlands form unique landscapes which can act as amenity areas for locals and visitors and can attract tourists (hill-walking, wildlife watching and fishing in remote areas are major recreational activities in Ireland) which bring economic benefit.

In recent years, along with increased understanding and concern over climate change, scientific research has established the importance of peatlands as carbon stores and potential buttresses against some of the projected effects of climate change. As they develop, peatlands slowly remove carbon from the atmosphere and store it in the form of peat. By taking the carbon dioxide from the atmosphere over long periods and by emitting other greenhouse gases such as methane, natural bogs affect and regulate the global climate. Over a long period of time, peatlands have been naturally "cooling" the atmosphere, the opposite to human-induced "warming" caused by the emission of carbon dioxide into the atmosphere. Like virgin tropical rainforest, natural peatlands act as natural climate regulators.

Once degraded, through drainage, cutting or burning, this process is reversed. Along with the emissions of carbon dioxide from the burning of peat, the drained bog now also emits vast amounts of carbon dioxide as the peat that they stored decomposes.

Peatlands play an important part in maintaining water quality. Mosses, which are the main vegetation component of a healthy peatland help to filter contaminants and release "clean" water. Damage to peatlands, especially where channels have been created from cutting, drainage and loss of vegetation, can increase the amount and speed of unfiltered water leaving the bog. Peatlands can also be important in regulating flows into water courses and can mitigate flooding and drought.

When peatlands are damaged or inappropriately managed, these services can be degraded or lost entirely, resulting in additional costs arising from flooding of properties and land, damage to rivers and lakes, losses of fish spawning and nursery grounds, increased cost of water treatment and increased emissions of carbon dioxide to the atmosphere.

The role of healthy peatlands in the provision of clean water, in regulating climate and providing support for unique biodiversity and associated aesthetic and touristic values is not widely appreciated against the production values of a drained peatland in the form of peat, turf or support for agriculture and forestry. An understanding of these peatlands ecosystem services is key to sound decision making regarding the management and use of peatlands, which will centre on balancing the needs and interests of the entire community.

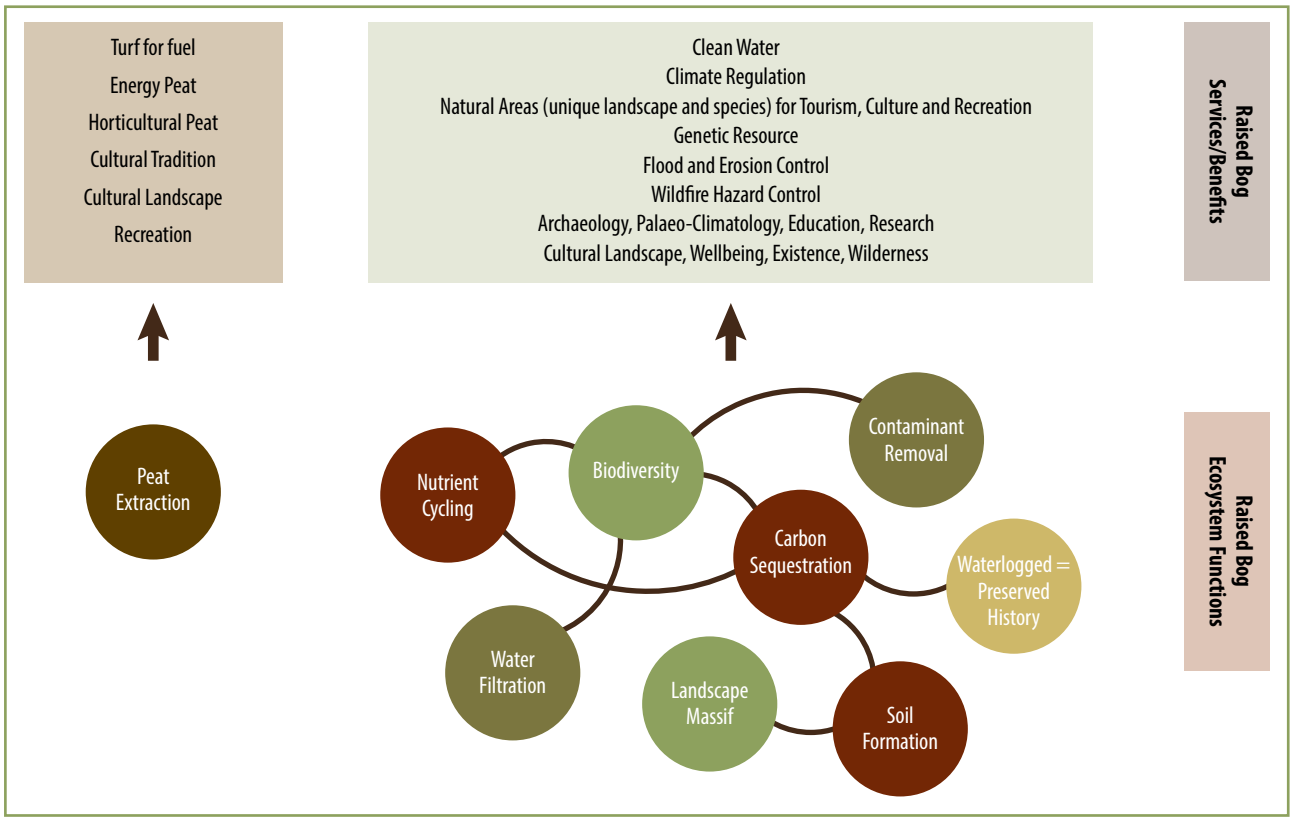


Figure 2.x Ecosystem services of raised bogs

Much of Ireland's peatlands are in private ownership and considerable areas are also owned by the State or by State-owned companies Coillte and Bord na Móna. The future use and management of peatlands must be centred on balancing the needs and interests of those who own or depend on the peatlands and the interests of the wider community.

2.4 The Extent of Peatlands in the State

Peat soils cover 20.6% of the national land area. The original area of raised bogs in the State was approximately 311,000 ha and the original area of blanket bogs was approximately 774,000 ha. Fens were once common in Ireland but they have been all reclaimed except for some 20,000 ha of conservation importance[3]. It has been estimated that only 10% of the original raised bog and 28% of the original blanket peatland resource are deemed suitable for conservation (natural peatlands). The remainder of the peatland area has been managed to various extent and the main land use categories are presented in the following table.

Distribution of the main land use categories of peatlands.

Natural Peatlands	269,270ha[4]
Cutover Peatlands (Affected by Domestic Turf Cutting)	612,380ha[5]
Afforested Peatland	300,000ha[6]
Farmed Peatland (grassland)	295,000ha[7]
Industrial cutaway peatlands	70,000ha[8]
Rehabilitated cutaway peatlands	18,000[9]

Peatlands Map of Ireland[10] (adjacent page)

3 Foss, P. 2007. Study of the Extent and Conservation Status of Springs, Fens and Flushes in Ireland 2007. Department of the Environment, Heritage and Local Government, Dublin

4 Malone, S, and C O'Connell. 2009. Ireland's Peatland Conservation Action Plan 2020 – Halting the Loss of Biodiversity. Irish Peatland Conservation Council, Lullymore.

5 Malone, S, and C O'Connell. 2009. Ireland's Peatland Conservation Action Plan 2020 – Halting the Loss of Biodiversity. Irish Peatland Conservation Council, Lullymore.

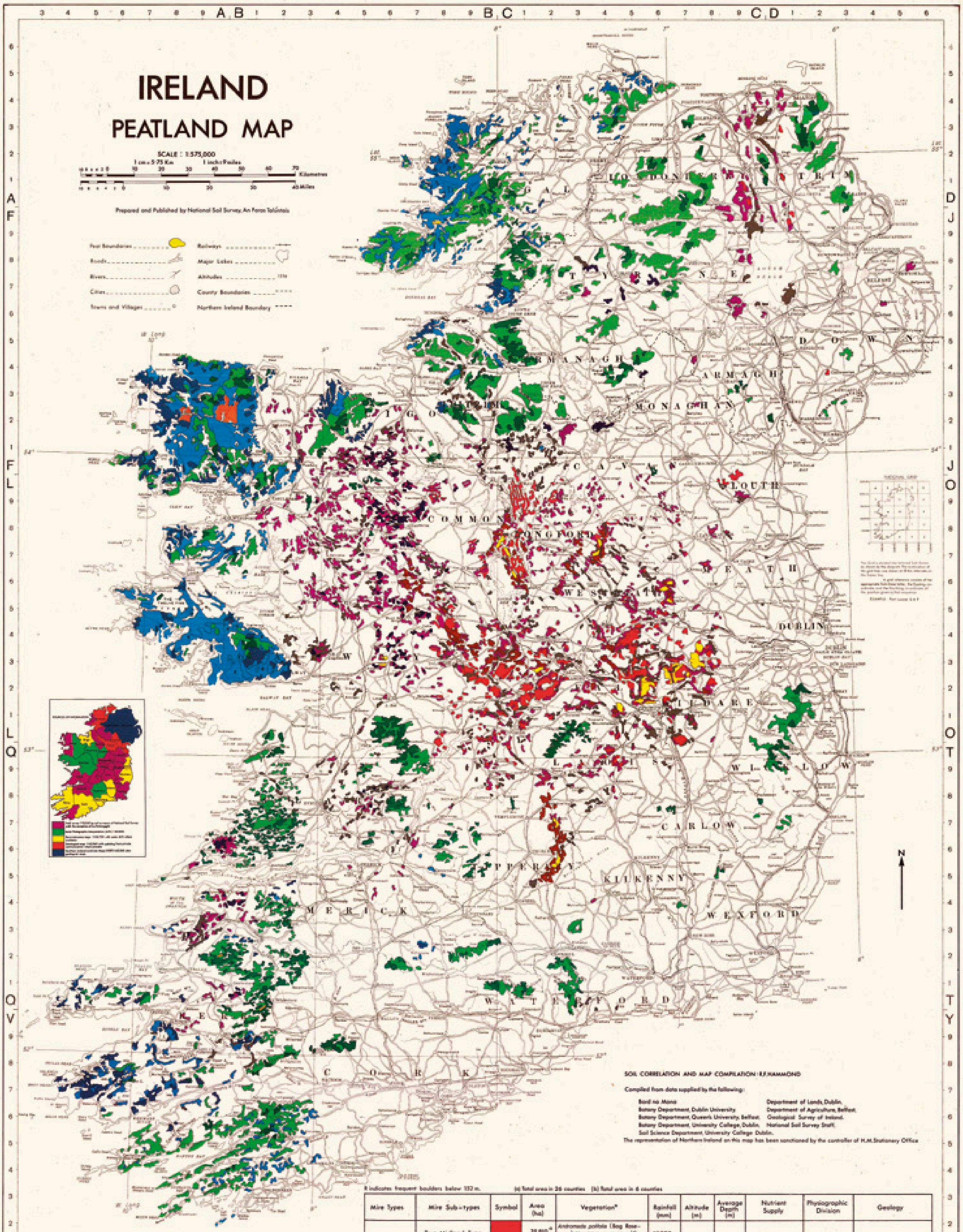
6 Black, K.., O'Brien P., Redmond J., Barett F. & Twomey M. 2008. The extent of recent peatland afforestation in Ireland. Irish Forestry 65 (1&2): 71-81

7 CRF Table 5.C, National Inventory Report 2007-2009 (Environmental Protection Agency)

8 57,000 ha (including hard surfaces and fringes) belongs to Bord na Móna and the remainder is an estimate of the area that is cutaway by private companies extracting peat mainly for horticulture.

9 Figures provided by Bord na Móna, composed mainly of rewetted cutaway but also afforested as well as for cultural or other commercial uses.

10 http://www.agresearch.teagasc.ie/johnstown/Soil%20maps/Peatlands%20of%20Irelan d/Map.pdf



Mire Types	Industrial Category	Symbol	Area (ha)
Raised Bog	Machine Peat		15,580
	Milled Peat		34,690
	Moss Peat		5,050
	Potential Industrial Areas		28,790
Blanket Peat	Machine Peat		810
	Milled Peat		7160

B indicates frequent boulders below 152 m. (a) Total area in 26 counties (b) Total area in 6 counties

Mire Types	Mire Sub-types	Symbol	Area (ha)	Vegetation*	Rainfall (mm)	Altitude (m)	Average Depth (m)	Nutrient Supply	Physiographic Division	Geology
Raised Bog	True Midland Type		39,810 [a] 1,180 [b]	*Andromeda polifolia* (Bog Rosemary), *Vaccinium oxycoccus* (Cranberry), *Sphagnum magellanicum*	<1,000	<152	7·0	Ombrotrophic	Undulating Lowland	Predominantly Carboniferous Limestone glacial drift, also Basalt, Silurian and Ordovician Shale glacial drifts
	Transitional Type		35,270 / 3,850	*Carex panicea* (Carnation Grass), *Sphagnum papillosum*, *Sphagnum subsecundum*, *Pleurozia purpurea*	1,000 to 1,250					
	Man modified		172,110 / 21,830	Species listed in bulletin			2·5			
Fen	Man modified		92,510 / 9,300	Species listed in bulletin			1·2	Minerotrophic		
Blanket Bog	Low Level Atlantic type	B	343,610 / 1,120	*Schoenus nigricans* (Black Headed Rush), *Molinia caerula* (Purple Moor Grass), *Campylopus atrovirens*, *Pleurozia purpurea*	>1,250		3·0	Ombrotrophic (in small flush areas in minerotrophic)	Flat to Undulating Lowland	Granite, Mica-schist Gneiss, Quartzite and Old Red Sandstone
	Man modified Atlantic type		85,590 / 330	Species listed in bulletin						
	High Level Montane type		321,060 / 100,120	*Trichophorum caespitosum* (Deer Grass), *Empetrum nigrum* (Crowberry)		>152	1·2		Mountain and Hill Land	Rock and glacial drift
	Man modified Montane type		111,630 / 27,140	Species listed in bulletin						

*Flora definitively characteristic to each *in situ* ombrotrophic mire type. The following species occur to a greater or lesser extent in all bog types: *Calluna vulgaris* (Heather) *Erica tetralix* (Cross Leaved Heath) *Narthecium ossifragum* (Bog Asphodel) *Eriophorum angustifolium* and *E. vaginatum* (Bog Cottons)

Based on the Ordnance Survey by permission of the Government
Cartography : Cartographic Section, National Soil Survey
Printed at the Ordnance Survey Office, Phoenix Park, Dublin, 1978

2.5 Objective of the Strategy

The objective of the Peatlands Strategy is to set down clear principles which will guide Government policy in relation to all Irish peatlands. These principles will be applied through their incorporation into the more detailed sectoral plans, policies and actions adopted and undertaken for each policy area. Semi-State bodies in so far as their statutory mandates allow and public authorities with sectoral responsibilities are being asked, as part of this Strategy, to assess how well the values and principles set out in this strategy are reflected in existing plans and policies and how they will, if necessary, realign their policies and plans to make them consistent with the Peatlands Strategy.

PEATLANDS & COMPLIANCE WITH EU LAW

Ireland has had a number of cases taken against it for alleged infringements of EU law in the management of its peatlands. The process is provided for in the EU Treaties and charges the Commission with the responsibility of ensuring that member states meet their agreed legal obligations. Where the Commission and the Member State cannot agree on measures to resolve the issues of contention, the matter is referred to the Court of Justice of the European Union (CJEU). Ireland has had a number of cases so referred, including the following relating to peatlands management.

C392/96. In 1999, the Court found that Ireland had incorrectly applied the requirements of the EIA directive in regard to turf-extraction, land reclamation for agricultural purposes and afforestation. Resolution of this case included amendments of planning law and designation of peatland Natural Heritage Areas.

C67/99 In 2001, the Court found that Ireland had not nominated a sufficient list of sites for designation as SACs. This finding necessitated the nomination of additional sites, including peatlands sites.

C-117/00, Commission v. Ireland – In 2002, the court found that Ireland had not provided sufficient protection to specific bird habitats from overgrazing by sheep in upland areas and in sites designated under the Birds Directive.

C215-06 In 2008, the Court found that Ireland failed to subject a planning application to Environmental Impact Assessment in the case of a windfarm at Derrybrien.

C66-06 In 2008 the Court found that Ireland was not correctly applying the requirements of the EIA Directive. This resulted in amendments to planning and agriculture legislation, including aspects related to the drainage of wetlands.

Further pre-court infringement action is currently underway related to turf-extraction from SACs and NHAs. All judgements of the CJEU can be accessed through the following website:

http://curia.europa.eu/fr/content/juris/index.htm

The aim is to fully harness the potential for more effective management of all of Ireland's peatlands. A strategic approach across many sectors and policy areas is required. The Strategy acknowledges obligations arising from International Agreements such as RAMSAR, the Convention on Biological Diversity (CBD) and the United National Framework Convention on Climate Change (UNFCCC), EU legislation, including the Water Framework Directive, the Cleaner Air for Europe (CAFE) Directive, Floods Directive, the Environmental Liabilities Directive, the Environmental Impact Assessment Directive, the Habitats and Birds Directives and regulations relating to climate change, which oblige Ireland to assess and address how its peatlands are managed and how various activities on them are regulated.

This Strategy has been informed by the 2011 BOGLAND[11] report published by the Environmental Protection Agency which provides large-scale analysis and findings. The Report suggested that Ireland needs to change the way in which the peatland resource is currently viewed and managed if we wish to secure the multiple benefits offered by these natural ecosystems and avoid the costly consequences of unsustainable management.

11 Renou-Wilson, F., T. Bolger, C. Bullock, F. Convery, J. P. Curry, S. Ward, D. Wilson, and C. Müller. Bogland - Sustainable Management of Peatlands in Ireland. Johnstown Castle, Co. Wexford: STRIVE Report No 75 prepared for the Environmental Protection Agency (EPA), 2011.

2.6 Turf cutting controversy - a catalyst for change

The issue of the management of Ireland's peatlands has become a matter of significant debate and dispute in recent years as the Government moved to protect Ireland's resource of raised bog SACs in compliance with obligations under the Habitats Directive. In April 2011, the Government established a Peatlands Council to bring together stakeholders and committed itself to the preparation of a Peatlands Strategy to set out overall policy on Ireland's peatlands.

The Council was asked to address long-term issues as part of a draft peatlands strategy, but also to consider the immediate challenges in regard to turf-cutting in designated sites. A catalyst for this was the degree of controversy which followed the 2010 decision to enforce a prohibition on turf-cutting on raised bog SAC sites. A period of interaction between the Council, turf contractors and turf-bank owners was followed by the withdrawal of some turf-cutters and contractors from the dialogue.

In February 2012 a Peatlands Forum under the chairmanship of Mr Justice Quirke was convened. In his report on the Forum, Mr Justice Quirke stated that that there had been a *"breakdown of communication and a breakdown of trust between the relevant parties which may be difficult to restore"* in regard to the implementation of the EU Habitats Directive as it impacted on raised bogs.

There is no doubt that some of the communications gap in this instance arose from the distance in time between the effective granting of a 10 year derogation for continued cutting by domestic turf cutters and the final decisions in relation to the ending of that derogation. In effect, as the Minister for Arts, Heritage and the Gaeltacht pointed out in the Dáil on 7 March 2012, the derogation allowed all parties to forget about the issues involved until the last minute.

In addition to concerns about the existing prohibitions on turf-cutting, there was also concern among turf-bank owners and contractors as to what future restrictions will be introduced on blanket bog SACs, National Heritage Areas (NHAs) and perhaps also undesignated bogs in the wider countryside.

This Peatlands Strategy should dispel unfounded fears that the Government wishes to end turf cutting in Ireland, while making clear that Ireland's peatlands must be managed in a balanced way. This balance involves protecting traditional rights and providing fair compensation where the State needs to curtail the continued exercise of those rights, tackling greenhouse gas and air pollution emissions, protecting important water and biodiversity resources, pursuing sustainable development and ensuring that Ireland meets its legal obligations.

The Government is committed to ensuring that the law of the land is upheld in relation to nature protection. However the implementation of these laws can interfere with the operation of traditional rights associated with ownership. This makes implementation particularly challenging. The Government is committed to meeting this challenge in a transparent way, working with communities to lawfully implement the measures contained in this Strategy.

3 VISION AND VALUES

VISION STATEMENT:

This Strategy aims to provide a long-term framework within which all of the peatlands within the State can be managed responsibly in order to optimise their social, environmental and economic contribution to the well-being of this and future generations.

SCOPE

NPS V 1 This Strategy applies to all 1.47 million hectares of peat soils in the State whether privately or publicly owned. This includes bogs and fens whether relatively intact, drained, eroded, cut-over or cutaway and at all stages of degradation – and all peat soils currently in use for agriculture and forestry purposes.

NPS V 2 The Strategy is aimed at peatland owners and users and at the broader community which benefits from the many services that peatlands provide. It is also aimed at those whose decisions affect and shape the management of peatlands.

NPS V 3 Many stakeholders have an influence on peatland management through their roles as policy makers, regulators, providers of financial supports or grants, consent bodies, commercial enterprises or providers of public services. This strategy aims to ensure that each of these bodies is equipped with the necessary information and understanding of the implications of its decisions to ensure that its policies and actions contribute to the responsible management of peatlands.

PRIVATE AND PUBLIC - COSTS AND BENEFITS

NPS V 4 Ireland's peatlands provide a wide range of benefits and services including through agriculture, biodiversity maintenance, carbon storage and sequestration, forestry, water regulation and flood attenuation, fuel for electricity generation and turf for homes, employment (both direct and indirect) land for wind energy, amenity areas, peat for horticulture and land for housing and infrastructure. They are also a source of knowledge (artefacts, past climates), education and research. Ireland's peatlands will continue to contribute to a wide variety of human needs and to be put to many uses. The aim of this strategy is to ensure that Ireland's peatlands are sustainably managed so that their benefits can be enjoyed responsibly and not lost, through consideration of the benefits and costs of alternative uses.

NPS V 5 The responsible use of peatlands will optimise the contribution of different uses to current and future human wellbeing, taking account of the economic, social and environmental services that peatlands provide. This will

facilitate an increased focus on the value and costs of alternative uses. Agriculture, forestry, peat extraction and commercial development should be undertaken in a manner that minimises environmental damage, realises opportunities regarding environmental protection and enhancement, and contributes to the State meeting its objectives and obligations relating to air, climate, water, nature and the environment.

NPS V 6 A framework for the responsible use of Ireland's peatlands will encourage appropriate uses and discourage inappropriate ones; what is appropriate and inappropriate will depend on the context. The Strategy aims to inform appropriate regulatory systems that facilitate good decision making in support of responsible use. It also aims to inform the provision of appropriate incentives, financial supports and disincentives where required.

NPS V 7 Peatlands are archaeologically rich landscapes. There is a distinct suite of monument types associated with their usage and a range of activities carried out in bogs reflective of the cultural values of past societies. Organic materials, in wood, leather, skin and tissue, plant and food remains which survive in peat do not survive in comparable dryland contexts, archaeological monuments are preserved within and below peat. Peat itself is a repository for the environmental history of its surroundings. The strategy will facilitate the effective protection of archaeological material in all peatlands.

EXISTING & FUTURE USES – RIGHTS AND RESPONSIBILITIES

NPS V 8 Turf cutting by citizens for their own domestic fuel needs is a valued traditional activity across many peatlands. In many areas, such activity can continue into the future. However, where turf cutting conflicts with conservation objectives and obligations on the State, it will need to be curtailed. This Strategy aims to ensure that where this is necessary in the interests of the common good, affected land owners or turbary rights owners will be compensated and/or assisted in making alternative arrangements to meet their fuel needs, where feasible.

NPS V 9 There are areas of peatlands which are being and have been used for the extraction of peat and turf where this activity will cease over a foreseeable time frame. This Strategy aims to provide a framework for determining and ensuring the most appropriate future use of such peatlands.

NPS V 10 Land-owners and users enjoy property rights that are protected in the Constitution and are thus at the centre of the Strategy. The use of peatlands can have beneficial and negative consequences for the wider community and certain uses are currently subject to legal restrictions, permissions and licences, where the common good could be affected. At times it is necessary for the State to delimit the exercise of property rights for the exigencies of the common good, which is also provided for in the Constitution.

NPS V 11 Ireland has a wealth of experience in managing peatlands. This Strategy aims to learn from and to build on the successes of public, private and voluntary actors in restoration, rehabilitation and sustainable peatland management. It also aims to use our experience to achieve the stated vision of this Strategy.

CLIMATE, AIR, WATER & NATURE

NPS V 12 There is a growing body of national and international scientific research which provides a knowledge base for responsible peatlands management for a wide variety of public goods. This Strategy aims to ensure that decisions affecting peatlands management are informed by best scientific knowledge.

NPS V 13 Peatland management influences the level, quantity and quality of water in the surrounding countryside. It can affect the water quality in rivers and lakes. The costs of treating drinking water are also affected by peatland management. Peat siltation can damage the health of fish spawning grounds and other aquatic species. Management choices can exacerbate or help prevent flooding of other lands and property in the same catchment. This strategy aims to ensure that such effects are fully explored, understood and factored into policy making and land use planning.

NPS V14 The role of peatlands in the carbon cycle is a key consideration in their future management. This may have policy implications in regard to Ireland's response to climate change. To fully explore these it will be necessary to build a deeper and more complete understanding of the impacts and implications of present and potential uses of our peatlands. This strategy aims to ensure that the necessary research and data collection is undertaken to support the development of an informed national policy position in this context.

NPS V 15 Irish peatlands contain rare and threatened habitats and species which are in danger of disappearance. Ireland has undertaken to protect these habitats and species, through nominating representative areas as Special Areas of Conservation, Natural Heritage Areas or Special Protection Areas under the Birds Directive. This Strategy aims to ensure that these areas are protected to the maximum extent possible, for the common good, and that land owners, users, public authorities and non governmental organisations contribute to this objective.

WORKING TOGETHER

NPS V 16 Responsible management of peatlands will require collaboration and partnership between land-owners, communities, public authorities, commercial organisations and non-governmental organisations. This Strategy aims to ensure that appropriate supports, structures, funding mechanisms and regulatory frameworks are in place to allow such partnership to develop.

NPS V 17 The choices that are made in peatland management can contribute to or detract from the achievement of objectives and obligations for the common good entered into by the State under International agreements, EU and national law. Water quality, flood control, fisheries, rivers and streams and the riparian habitat, wildlife protection, air quality and climate change will be affected in different ways, depending on the choices that are made. This Strategy aims to ensure that the relevant State authorities that influence such decisions contribute to meeting these cross-cutting objectives and obligations in their policies and actions.

NPS V 18 The potential contribution of peatlands management to climate change mitigation will be fully explored. The immediate priority will be to address research requirements and to establish the information required to support the development of an informed policy position. This will include the development of a sound technical basis to address the issue of accounting for wetland emissions and removals.

AWARENESS & EDUCATION

NPS V 19 The importance of responsible peatlands management and how it can impact on the wider community is not widely understood or appreciated by the general public. This strategy aims to increase awareness and understanding by the public, by land owners and by decision makers of the value of peatlands and the implications of good and bad management practices.

PART 2

4 MANAGING OUR PEATLANDS: PRINCIPLES, POLICIES AND ACTIONS

4.1 Overview

In accordance with the vision and values that have been set out, and in looking to the future, the Government's approach to shaping the management of the nation's peatlands will be based on a broader appreciation of the benefits – the ecosystem services - derived from our peatlands.

The use and management of peatlands takes place in a complex regulatory environment with overlapping policies and legal frameworks. Several areas of EU law, particularly relating to environmental protection, apply to our use of peatlands. Different laws apply to sites selected for nature conservation than to other areas of peatlands. A wide range of public authorities play a role in determining how peatlands are used. Current uses of peatlands are governed by various sectoral policies and regulations and several consent and licensing requirements. Uses are influenced by publicly funded financial supports and incentives.

It is clear that different sectoral approaches have not always been closely coordinated. Policy makers in specific areas have not always fully considered the implications of their plans and policies on the achievement of other public policy objectives. This Strategy aims to ensure that we take advantage of opportunities to implement policies relating to peatland use that are complementary and mutually reinforcing and that conflicting policies are avoided in as far as possible.

Set out below are the principles that will be used to guide sectoral policies, plans and decisions regarding the future use of peatlands. Public authorities responsible for these sectoral areas or who are charged with implementing cross-cutting objectives through their sectoral plans, policies and decisions, will be responsible for delivering the objectives of this strategy in their functional areas, in keeping with its vision, values and principles. The implementation structure for delivering the Strategy is set out in chapter 5.

GENERAL PRINCIPLES

NPS P 1 Ireland's peatlands are currently, and can continue to be, used for many purposes including agriculture, development, peat extraction, forestry, conservation and amenity.

NPS P 2 The potential economic, environmental and social benefits and costs of peatland uses will be considered and applied to policy and land-use decisions.

NPS P 3 The future management of Ireland's peatlands will ensure the protection of threatened peatland habitats in compliance with environmental laws.

NPS P 4 The rights and interests of land-owners and land users on Ireland's peatlands will be fully considered in policy and decision making, along with full consideration of the interests of the wider community.

NPS P 5 Semi State companies, in as far as their statutory mandates allow, and Public authorities will discharge their functions in such a way as to support the objectives of this Strategy.

4.2 Existing Uses

4.2.1 Turf cutting for Domestic fuel

An essential characteristic of peatlands has been their importance to local communities, both as iconic parts of the landscape and as fuel and economic resources. The earliest written records of the use of turf as a fuel date from the seventh century. By the seventeenth century hand-won peat was widely used as a fuel. In the 18th and 19th centuries it is estimated that 5 million tonnes of turf were used per year. This was still the level of annual production and use in the early 20th century, but the figure fell during the 1920s and 1930s. Large-scale industrial production of sod turf by Bord na Móna took place between the early 1950s and the early 1990s. In 1981 the Government introduced a private bog scheme which subsidised the re-development of private bog plots and the purchase of machinery.

The scheme changed the way private turf was produced. Nowadays most turf is cut by machine and the saving is done by hand, by the turf-bank owner. It is clear therefore that the characteristics of domestic turf cutting have changed significantly from the days of the sleán. Two main types of machines are generally used: A hopper, used in conjunction with a digger, involves cutting turf from a face bank, macerating and spreading it. The second, called the "sausage" machine cuts the turf from the surface of the bog. In 2003 some 600,000 tonnes of turf were cut using these methods. The cutting, footing and saving of turf is principally an economic activity, but because it had a major community aspect it was and is important socially and culturally.

Since 1990 turf use for domestic heating has decreased by 67%, with a further decline and shift to alternative domestic fuels in the first decade of the 21st Century. A carbon tax was introduced in 2010 to incentivise a shift to cleaner, low carbon products and services. Since 1 May 2013, the carbon tax applies to peat at a rate that reflects its relative carbon pollution compared to alternative domestic fuels.

TURBARY - PRINCIPLES

NPS P 6 The exercise of turbary rights and the use of bogs by families to source their fuel is recognised as an activity which has significant economic and social importance for the families and communities involved.

NPS P 7 The exercise of turbary rights can continue. However, it will be necessary to restrict turf-extraction in certain areas, for example for the purposes of nature conservation and in keeping with Ireland's legal obligations. Affected turf-cutters will be provided with appropriate compensation packages for losses or will be assisted in making alternative arrangements to meet their fuel needs.

NPS P 8 Turf burning for domestic heat gives rise to high levels of greenhouse gas emissions and air pollutants, compared to the use of alternative fuels. Energy and climate change policies will consider how to incentivise a switch to alternative, more sustainable and efficient energy sources.

CARBON DIOXIDE EMISSIONS OF FUELS

The table below outlines carbon dioxide emissions per unit of energy from different fuels. Higher figures correspond to higher levels of emissions.

	t CO2/TJ (NCV)	g CO2/kWh (NCV)
Liquid Fuels		
Motor Spirit (Gasoline)	70.0	251.9
Jet Kerosene	71.4	257.0
Other Kerosene	71.4	257.0
Gas/Diesel Oil	73.3	263.9
Residual Oil	76.0	273.6
LPG	63.7	229.3
Naphta	73.3	264.0
Petroleum Coke	98.9	334.5
Solid Fuels and Derivatives		
Coal	94.60	340. 6
Milled Peat	116.7	420.0
Sod Peat	104	374.4
Peat Briquettes	98.9	355.9
Gas		
Natural Gas	56.9	204.7
Electricity (2011)	135.7	488.6

http://www.seai.ie/Publications/Statistics_Publications/Emission_Factors/

4.2.2 Agriculture

For thousands of years, under the old Irish land ownership systems, the fringes of peatlands and blanket bogs were used for grazing. Following the various 'settlements' when the ownership of land was transferred to British planters and there was security of tenure for the new owners, extensive attempts were made to convert peatlands to good agricultural land. These attempts continued from the seventeenth to the nineteenth centuries, and much of this converted land is still in agricultural use. In the late 18th and the first half of the 19th century there was a rapid increase in the population when poor families took over sections of peatland, built homes and began to cultivate potatoes. When this fringe land was able to support crops or grazing it became subject to rent, pushing impoverished tenants further into the bog. This process stopped abruptly with the famine, but the marks of this process are still visible throughout the country.

The dominant modern use of peatlands for agriculture has been for grazing, principally sheep, on blanket bogs. With the advent of headage payments, extensive over-grazing took place in certain areas which damaged the peatlands. In more recent times, the advent of decoupling and introduction of commonage framework plans has greatly reduced the overgrazing pressures. Providing that the stocking levels are appropriate, grazing on blanket bogs is a sustainable activity which does not inhibit peat accumulation and should be supported.

Following experiments on converting cutaway industrial peatlands to grassland some 2,500 hectares of this bog was converted. Areas of cutaway can be converted but current land prices would not support the necessary investment.

Farming occurs on much of Ireland's peatlands. Farmers often own tracts of bog which they also manage. Farmers play a vital role in the management of Ireland's peatlands and peat soils and their activities have the potential to be either beneficial or damaging. Most farmers receive financial support for their activities from public funds and have proven themselves willing to manage their holdings in an environmentally sustainable way, subject to the provision of appropriate advice and support. For example, farmers and their representative organisations have been consistently constructive in addressing issues such as over-grazing of uplands, and the requirement to cease turf-cutting in raised bog SACs.

In January 2008 the European Commission decided to close an infringement case against Ireland relating to damage caused by the overstocking of sheep. In June 2002, Ireland was condemned by the European Court of Justice ECJ on two accounts: firstly, for not protecting the 25,000 hectare Owenduff-Nephin Beg Complex special protection area (SPA) in County Mayo from erosion damage caused by overstocking of land by sheep and, secondly, for not protecting the wider habitats of the red grouse from similar damage. The breaches arose under the Birds Directive (Council Directive 79/409/EEC), which requires the habitats of wild birds to be protected, and under the EU Habitats Directive, which lays down safeguards for SPAs.

Overgrazing results in the loss of heather, which red grouse need to feed on and nest in. Other effects include loss of soil, sometimes down to rock, and silting and contamination of rivers.

Ireland has since taken steps to reduce sheep numbers on Irish hills and has also introduced further protective safeguards in the Owenduff-Nephin Beg Complex and the Twelve Bens, where damage from overgrazing has been most serious.

Commonage Framework plans are being progressed to address this issue at a national level. This approach has been relatively successful, and the implementation of

these framework plans is currently the subject of a review by the Department of Agriculture, Food and the Marine and the Department of Arts, Heritage and the Gaeltacht, with the objective now to ensure a long term sustainable level of stocking for future years.

ACTIONS - AGRICULTURE

NPS A 1 The existing cross compliance requirements set down good agricultural and environmental practices (GAEC) and statutory management requirements (SMRs) which must be followed to ensure the sustainable management of all soils including peatland areas. These provisions (or similar) will be continued under the revised CAP regulations to offer continued safeguards for land protection.

NPS A 2 The management of commonage lands, currently under review, will be finalised so as to ensure appropriate, sustainable grazing regimes for upland peat soils.

NPS A 3 The possibility of introducing a peatlands measure under the Rural Development Programme from 2014 to encourage enhanced peatlands management to complement existing cross compliance controls will be explored.

NPS A 4 Support for farmers restricted by the requirements of the Habitats Directive in farmed peatlands will be considered as part of the measures designed for the protection of Natura areas in the next Rural Development Programme.

Farmers are encouraged, through their single farm payments and payments under the rural development programme, to manage their holdings in such a way as to encourage the conservation of healthy peatlands. Further enhanced measures may be considered under the rural development programme, which will address many challenges; including climate change, water quality and halting the loss of biodiversity. To this end consideration will be given to the introduction of specific peatland measures as part of the next financial perspective from 2014 for incorporation into specific farm-level environmental management plans and into other agri-environmental policies. Farmers who undertake positive peatland management measures as part of an agri-environmental scheme or the restoration of designated peatlands, should be compensated appropriately for their costs incurred and income forgone in implementing any such measures. Cross compliance penalties will continue to be used where farmers cause environmental damage to peatlands in breach of the requirements of the single farm payment scheme.

CROSS-COMPLIANCE

The Department of Agriculture, Food and the Marine operates several schemes which incorporate standards for the maintenance and protection of agricultural lands, the Single Payment Scheme, the Disadvantaged Areas Scheme, REPS, AEOS and the Grassland Sheep Scheme, under the provision of Article 6 of Council Regulation (EC) No. 73/2009. Under the provisions of these Schemes, cross compliance, good agricultural and environmental practices (GAEC) and statutory management requirements (SMRs), including those relating to the Birds and Habitats Directives, must be followed to ensure the sustainable management of all soils. These provisions (or similar) will be continued under the revised CAP regulations to offer continued safeguards for land management and protection of all soils including peatland soils.

COMMONAGE

There is approximately 422,000 ha of commonage in Ireland, according to the CSO survey of agricultural activity. In response to an adverse European Court court finding regarding over-grazing in many of these areas, commonage Framework Plans were published in 2002, as part of a joint initiative between the Department of Arts, Heritage and the Gaeltacht and the Department of Agriculture, Food and the Marine. Agricultural and ecological assessments were carried out and subsequently recommendations for the sustainable use of the areas surveyed were then drawn up for all commonage areas. Where necessary, destocking (removal of some of the stock kept on commonage) was prescribed to ensure recovery of the vegetation. These plans have been implemented through REPS, AEOS and the NPWS Farm Plan Schemes. The management of commonages is currently being reviewed to take account of the updated vegetative condition of commonages nationally. Under this review it is envisaged that minimum and maximum number of ewe equivalents required to graze commonage parcels will be set down in order to ensure that they are maintained in Good Agricultural and Environmental Conditions (GAEC). When the management of commonage review is finalised, it should ensure appropriate, sustainable grazing regimes in order to protect the integrity and biodiverse nature of this natural landscape in a sustainable manner.

BURNING AS A LAND-MANAGEMENT TECHNIQUE

Fire is a powerful but dangerous tool - in the right hands and with the right application fire can enable rapid and cost effective treatment of unwanted vegetation; but fire needs to be used with skill and understanding if it is not to do more harm than good. The benefits of burning to the land must justify the effort and level of risk involved. Poorly planned or executed burning will cause long-term damage to soil and upland hydrology or hasten unwanted vegetation change that will in turn reduce productivity in livestock or wildlife habitats. Most importantly, burning under unsuitable conditions often leads to dangerous wildfire incidents. Uncontrolled burning of land leads to the destruction of already fragile habitats and wildlife, and can place human lives and property directly at risk. Apart from these direct risks, uncontrolled wildfire events lead to fire service resources being over-extended and diverted away from their main task of saving lives in our communities. Safety and consideration for neighbours and wider communities must therefore be paramount in planning and implementing safe, responsible controlled burning operations. The Wildlife Acts prohibit the cutting, grubbing, burning or destruction of vegetation growing on uncultivated land or in hedges or ditches from 1 March to 31 August during the nesting and breeding season for birds and wildlife.

NPS A 5 A code of best practice will be established regarding the use of fire as a land management tool, to avoid accidental damage and to limit environmental harm.

4.2.3 Peat extraction for horticulture

Peat is used in horticulture both as a soil improver and as the basis for growing media ('composts' as they are known). Peat is the principal ingredient used in professional growing media. It should be noted that arising from environmental concerns, increasing blends of "green" growing media are now in demand with the UK committed to "peat free" growing media by 2020. Extensive research is taking place on increased use of these alternative materials. Other materials used to produce compost for the general public include coir, wood fibre, composted bark and composted biogenetic waste.

There are potential benefits to the use of non-peat horticultural growing media in the retail market. The use of sustainable environmentally-friendly compost could be promoted further and potential may exist to fill the growing demand for such a product. While there is not at present a technically, environmentally suitable alternative material that could replace peat in professional horticultural crop production the opportunity exists for Ireland to exploit this growing market.

Between them, Bord na Móna and other horticultural peat producers including Erin Peat, Klassman-Deilmann Ireland, Harte Peat and thirty smaller horticultural peat producers, extract 2.6 million cubic metres[12] of peat for horticultural use annually. The provision of these growing media materials is a source of employment for the producers and for those using the products to support crop growing.

PEAT IN HORTICULTURE - ACTION

NPS A 6 A review of the use of peat in the horticultural industry will be undertaken.

4.2.4 Energy Policy and Peatlands.

The overarching policy objective of Ireland's energy policy is to ensure secure and sustainable supplies of competitively priced energy to all consumers. Ireland is

currently heavily reliant on imported fossil fuels to meet our energy needs. While it is acknowledged that fossil fuels will remain part of the energy mix for some time to come, progress is being made towards increasing the share of renewable energy in our energy requirements.

Under the Renewable Energy Directive (2009/28/EC), Ireland has been set a very demanding and legally binding target of ensuring that renewable energy amounts to 16% of final energy consumption by 2020. As part of meeting the overall target, the Government intends to achieve 40% renewable electricity, 12% renewable heat and 10% renewable transport.

Energy policy most obviously interfaces with the peatlands both in terms of the generation of electricity from peat and also the potential to locate windfarms on cutaway bogs.

PEAT AND ELECTRICITY

Peat has been extracted on an industrial scale for the generation of electricity since the 1940s. The first power stations used machine turf, but during the 1950s production changed to milled peat. The great majority of this peat was produced from midland raised bogs, of which over 70,000 hectares were drained for this purpose. The State is 85% dependent on imported fuel for its energy needs, and inter alia, for the purposes of energy security has continued to use indigenous peat as a raw material for electricity generation. The generation of electricity from peat at three power stations – Edenderry, run by Bord na Móna and two at Lough Ree and West Offaly – is supported through the electricity Public Service Obligation which will expire in 2015 for the Bord na Móna plant and 2019 and 2020 for the other two.

The peat industry is influenced by the availability of long-standing subsidies that promote the generation of electricity from peat sources. Bord na Móna employed substantial numbers between the late 1940s and the mid-1980s. but the number has reduced to over 2,000 people now. Combined with the numbers employed by the ESB, this constituted a significant social and economic benefit for the midlands, sustaining or creating communities. While the numbers employed in this area have significantly reduced, peat production for energy remains important for the local and national economy.

Co-firing of biomass with peat and other fossil fuels offers a number of potential benefits in terms of reducing the carbon emissions of peat-only plants and also, depending on the tariffs they can offer, stimulating the demand for indigenously sourced biomass. Co-firing biomass with peat is a technology supported under the Renewable Energy Feed-in Tariff scheme (REFIT).

PEAT FIRED ELECTRICITY GENERATION - ACTION

NPS A 7 The State energy companies will continue to work with the biomass sector on the potential of co-firing in the short term at State owned peat stations. Biomass power generation projects will be supported through the REFIT scheme.

WINDFARMS

To date, wind energy has been the largest driver of growth in renewable electricity, and the largest contributor to the achievement of the 2020 target. As of late 2013, the total amount of renewable generation connected to the grid is already in excess of just over 2,100 MW. It is estimated that a total of between 3,500 and 4,000 MW of onshore renewable generation capacity will be required to allow Ireland to meet its 40% renewable electricity target. This will require significant levels of development between now and 2020. Currently, 3,000 MW of renewable generation has taken up connection offers under the Gate 3 grid connection programme under the Group Processing Approach introduced by the Commission for Energy Regulation

Expert advice and evidence shows that Ireland has the capability to achieve its national targets for renewable electricity from onshore renewable generation alone, with capacity to spare. This means that there is potential for the development of projects of scale aimed at export markets.

Cutaway bogs have a number of advantages over other categories of land in terms of potential windfarm development of scale. The appropriate development of such bogs may assist energy projects which will contribute to meeting our renewable energy targets

and developing an export market for renewable electricity. Windfarms on cutaway bogs could be developed in conjunction with recreational and natural amenity.

4.2.5 Forestry

Forests can support diverse ecosystems and are a vital part of Ireland's biodiversity. Forests can also help to mitigate climate change through sequestering carbon from the atmosphere, providing renewable wood fuels and storing carbon in the form of wood for decades. Forestry is a key economic activity in Ireland and Government policy for many years has been to support its development. In 2008, 43% or 300,070 ha of the total forest estate was located on peat soils with the majority being on blanket bog (218,850 ha) and remainder on basin peat (raised bogs, fens and swamps) (74,080 ha) and cutaway peat (8,840 ha) (Black et al, 2008). Peatland afforestation rates peaked in 1995 with over 6000 ha planted per annum but since 2006, the trend has been an exponential decrease with a mere 265 ha per annum in 2011 (Department of Food, Agriculture and Forestry 2013).

Historically, afforestation of peatland soils has been undertaken largely by the State. Private afforestation of peatlands was also undertaken by landowners as these lands were considered to be of relatively low value for agricultural or commercial use. However, crop yields on peatlands tend to be lower than on mineral soils, and without incentivisation through grants, the exercise would be economically marginal. Planting on peatlands can lead to an initial loss of carbon, the export of nutrients and some sediment depletion. It can also significantly change hydrology and hydrogeochemistry of the catchment and may lead to increased acidification of surface water in some cases. This can have negative effects on water quality and aquatic habitats and species. Much has been learned over the decades of the afforestation programme and there has been a movement away from planting in areas where such impacts would be expected, or where crop yields would be low.

Extensive experiments took place between the 1950s and 1980s on the use of cutaway bog for forestry, but yields proved to be disappointing. Areas of cutaway were leased by Bord na Móna to Coillte in the late 1980s and planted but with limited success. The BOGFOR[13] Research Programme, studying afforestation on cutaway peatlands in the midlands Ireland, indicated that with careful selection of sites and species, commercial forestry is possible on these cutaway sites.

Sixty percent of forestry on peat soils is State-owned, with the remainder privately owned. Some 232,500 hectares of the Coillte estate are peatlands – making Coillte the largest single peatland owner in the country.

Since 2002 Coillte has been carrying out EU LIFE co-funded projects which by end 2015 will have resulted in the restoration of some 3,200 ha of afforested blanket and raised bog habitats. This is discussed in more detail in section 4.9

Afforestation is not approved or grant aided by the Forest Service on designated raised or blanket bogs, apart from limited circumstances where native woodland may be approved on the margins of designated sites with Department of Arts, Heritage and the Gaeltacht/National Parks & Wildlife Service agreement.

FORESTRY – PRINCIPLES & ACTIONS

NPS P 9 Forest policy will consider and assess whether sufficient safeguards are currently in place to ensure that inappropriate afforestation does not occur on peatland.

NPS P 10 The forest policy review will take into account, amongst other things, the impact of planting on hydrology, impacts on carbon loss and sequestration and the potential for adverse impacts on neighbouring water courses.

NPS P 11 Relevant authorities will aim to ensure that forestry measures and management plans protect peatland habitats and associated species, as appropriate..

13 Renou, F, M Keane, G McNally, J O'Sullivan, and E.P Farrell. Bogfor Project Final Report: A Research Programme to Develop a Forest Resource on Industrial Cutaway Peatlands in the Irish Midlands. Coford, Dublin, 2007.

NPS A 8 As part of the Forest Policy Review the relevant authorities, working with stakeholders, will introduce guidance and criteria for the identification and future management of peat areas currently afforested. They will also provide clear guidance on future afforestation of peat soils.

FOREST SERVICE GUIDELINES

Forest Service Guidelines set out the current system for forestry consents and conditions for compliance with planning legislation, including provisions for statutory and public consultation. These are outlined in Appendix IX.

NATIVE WOODLAND ESTABLISHMENT SCHEME

The Forest Service operates a Native Woodland Establishment Scheme focused specifically at the creation of new native woodland on 'greenfield' sites, predominately for promoting native woodland biodiversity. Used strategically, this scheme can also deliver a range of eco-system services, such as the protection and enhancement of water quality (through buffering, filtering and direct in-stream inputs) and the creation of linkage between other natural habitats in the landscape.

4.2.6 Management of publicly owned lands

Significant areas of Ireland's peatlands are owned and managed by public bodies, including Coillte, Bord na Móna and various Government Ministers. Overall the State owns in the region of a third of all Irish bogs (excluding fens) with Coillte the main landowner (See table below)

STATE-OWNED LANDS – PRINCIPLES AND ACTIONS

NPS P 12 Future management of these State-owned peatlands will be in keeping with the objectives of the Strategy.

NPS A 9 The present management of State-owned peatland areas will be evaluated and alternative management options aimed at increasing the delivery of all the ecosystem services of naturally functioning peatlands will be considered.

Distribution of Irish bogs (excluding fens) which are protected (SAC and NHA) and State-owned (Sources from DAHG , Coillte and Bord na Móna)

	Original area[14]	Protected peatlands	Protected near intact[15]	NPWS ownership	Coillte ownership	Bord na Móna ownership
Raised	237,190	35,000	21,519	7000	31,725[16]	2,900[17]
Blanket	765,890	182,063	143,248	34,339	188,334[18]	1,530[19]
Industrial cutaway		-	-	-	12,450	77,993
Total	1,085,160	203,582	164,767	41,339	232,509	82,423

14 Hammond, R. 1981. The Peatlands of Ireland. Soil Survey Bulletin No. 35. Ireland: An Foras Taluntais, Dublin.

15 Includes 1,210 ha of active bog (supporting a significant area of vegetation that is normally peat forming) (NPWS, 2013)

16 Includes 570ha of restored bogs

17 Mostly hydrologically damaged but includes some restored areas.

18 Includes 2,000 ha of restored bogs

19 Mostly hydrologically damaged but includes some restored areas.

4.2.7 After-use of industrial cut-overs and formerly forested peatlands.

Bord na Móna owns in the region of 80,000 hectares consisting mostly of peatlands. 77% of this land is currently required for production related activities. Over one-fifth of the landholding is already committed to future uses that include forestry (land leased to Coillte), tourism and amenity (e.g. Lough Boora Parklands), industry and infrastructure, aggregate production, water storage and wind energy. In addition, some bogs have been conserved for their high biodiversity value.

Some of the land bank, including that currently in peat production, will have potential for commercially beneficial uses. This potential is greatest at locations where the land bank coincides with major infrastructure, such as motorways and the electricity grid. About 9% of the landbank is already committed to wind energy use and this could grow to one-third or higher, depending on national and European market demand and national energy policy. For example, there may be opportunities to export electricity from 'clean energy hubs' in the midlands to the UK and European markets. Restoration or rehabilitation can be compatible with wind energy installations.

For economic as well as technical reasons, it is unlikely that forestry and agriculture will account for more than 10 – 15% of the total land bank and it is currently estimated that a further 7% may be appropriate for tourism and amenity uses including further development of the existing Lough Boora Parklands and other amenity developments.

Biodiversity is important in relation to all peatlands and provides a contribution to wealth and health through ecosystem services. It consequently has economic as well as environmental value. It is currently estimated that about 25% of the Bord na Móna land bank will eventually be wetlands or other areas with a high value for biodiversity and ecosystem services.

AFTERUSE - PRINCIPLES

NPS P 13 Bord na Móna will continue to assess and evaluate the potential of the company's land bank, using a land use review system. The assessment will help prepare a set of evidence based management plans for the various areas of peatland. These plans will also inform its cutaway bog rehabilitation programme.

NPS P 14 The policy of Bord na Móna is not to open up any undrained new bogs for peat production.

NPS P 15 Lands identified by Bord na Móna as having high biodiversity value and/or priority habitats will be reserved for these purposes as the principal future land use.

NPS P 16 Generally, Bord na Móna cutaway bogs that flood naturally will be permitted to flood unless there is a clear environmental and/or economic case to maintain pumped drainage.

NPS P 17 An examination of all publicly owned lands and privately owned cutaway will be undertaken with a view to identifying appropriate uses, which will aim to harness their potential to contribute to Ireland's environmental, ecological and economic wealth, with particular emphasis on mitigating carbon losses.

NPS P 18 In deciding on the most appropriate after-use of cutaway peatlands, consideration shall be given to encouraging, where possible, the return to a natural functioning peatland ecosystem. This will require re-wetting of the cutaway peatlands which may lead in time to the restoration of the peatland ecosystem.

NPS P 19 Environmentally, socially and economically viable options should be analysed to plan the future use of industrial cutaway peatlands, in conjunction with limiting factors as outlined in Bord na Móna's *Strategic Framework for the Future Use of Peatlands*.

NPS P 20 New crop production techniques, such as paludiculture (especially cultivation of Sphagnum moss), will be explored.

NPS P 21 The viability of using cutaway peatlands for flood attenuation measures will be considered as part of a national programme of Flood Risk Management Plans being rolled out under the Floods Directive.

NPS P 22 The work of Bord na Móna, Coillte and the Irish Peatlands Conservation Council in developing ecologically rich futures for cutaway and formerly forested bogs will be developed. Such areas can bring new tourism and recreation attractions to the midlands and the west.

CROSS-CUTTING ISSUES

4.3 Peatlands and Climate Change

4.3.1 Policy Analysis

It is accepted by the 195 signatory states to the United Nations Framework Convention on Climate Change (UNFCCC), including Ireland that increased concentrations of greenhouse gases in the atmosphere, arising from human activity, are contributing to global temperature increases and climate change. The Intergovernmental Panel on Climate Change stated in its Fifth Assessment Report that if emissions of such gases increase unchecked, the potential for severe economic, social and environmental disruption will increase. Greenhouse gases, such as carbon dioxide (CO2) are emitted when fossil fuels (oil, coal, gas and peat) are burnt and also through deforestation and land use change that lead to the release of carbon stored in vegetation and soils to the atmosphere.

More recent studies* have further refined our understanding of carbon emissions and removals from Irish peatlands and the impacts of various activities.

In response to the scientific advice from the Intergovernmental Panel on Climate Change, the European Council reconfirmed the EU objective of reducing greenhouse gas emissions by 80-95% by 2050 compared to 1990 in developed countries as a whole in order to reduce the risk of dangerous and potentially catastrophic climate change. Taking into account the necessary efforts from developing countries, this would allow a global reduction of 50% in emissions by 2050.

A Review of National Climate Policy, undertaken against the background of existing and anticipated national greenhouse gas mitigation targets for the period to 2020, was published in November 2011. Following the review, a programme for the development of climate policy and legislation was announced which sets out specific milestones over a two-year period planned to culminate in Government adopting a national policy position on transition to a low-carbon society, and finalising the introduction of climate legislation in the near future.

In anticipation of the planned legislation, work is now underway on low-carbon roadmapping in four key sectors of the economy – energy, buildings, transport and agriculture. This sectoral element of the roadmapping process will underpin work on a 2050 National Low-Carbon Roadmap which will be completed, following full public consultation.

NPS P 23 The potential contribution of peatlands management to climate change mitigation will be fully explored. The immediate priority will be to address research requirements and to establish the information required to support the development of an informed policy position. This will include the development of a sound technical basis for analysis and reporting of greenhouse gas emissions and removals associated with wetlands.

NPS P 24 As part of Ireland's commitment to move towards a cleaner, more carbon efficient economy, means to reduce the dependency on peat as a source of fuel and horticultural compost will be fully explored.

NPS P 25 Consideration will be given to how best cutaway bogs can contribute to a low carbon economy through their use as sites for renewable energy.

NPS P 26 An assessment will be undertaken of the value of identifying a number of priority peatland sites as part of a network of climate change related indicators and for their establishment as EU and global monitoring sites.

* David Wilson, Christoph Müller & Florence Renou-Wilson , Irish Geography (2013): Carbon emissions and removals from Irish peatlands: present trends and future mitigation measures, Irish Geography, DOI: 10.1080/00750778.2013.848542

4.3.2 Role of peatlands in climate

When expanding, peatlands are active sinks, absorbing (sequestering) carbon dioxide from the atmosphere. Established undisturbed peatlands store enormous quantities of carbon. It is estimated that Irish peatlands store some 1,566 million tonnes of carbon. This represents about 64% of the total soil organic carbon stock present in Ireland. Draining and peat extraction stops the carbon sequestration function and reduces the carbon stock. This transforms the peatland into an on-going source of carbon dioxide emissions as when drained, peat oxidises and CO2 is released. However restoration and rehabilitation of drained peatlands can reverse the process. Peatlands drained for forestry are more complex, as the growing trees absorb carbon dioxide and may partly offset carbon dioxide losses from the peat due to drainage.

Recent research has improved understanding of the role of intact and restored peatlands in climate change mitigation. For example the EPA report, "Carbon Restore – The Potential of Restored Irish Peatlands for Carbon Uptake and Storage"[20] provides some insight into how peatlands management might be used to enhance carbon sequestration and reduce emissions.

Further research is required to fully assess the potential for Ireland to capitalise on the sequestration, storage and emissions reductions that might be achieved through management, restoration and rehabilitation of its peatlands, Research objectives are set out in Section 4.4 below. This research will help to establish the best policy options available to Ireland, within the context of existing and emerging international and EU policies on climate change.

There is relevant work underway in the Inter-governmental Panel on Climate Change (IPCC). In 2010, the United Nations Framework Convention on Climate Change (UNFCCC) invited the IPCC to undertake further methodological work on wetlands, focusing on the rewetting and restoration of peatlands, with a view to filling in the gaps in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (2006 IPCC Guidelines). This work is now complete and was accepted by the IPCC at its plenary meeting held in Batumi Georgia, in October 2013.

4.3.3 Restoration of protected peatlands to stop carbon loss

Functioning peatlands capture ("sequester") carbon from the atmosphere and store it in the form of peat and vegetation. When peatlands are drained or damaged, the peat oxidises and the carbon is released back to the atmosphere. Peat oxidation can be stopped or reduced through hydrological management and restoration of the site. This will generally arise as a by-product of measures necessary to comply with the requirements of the Habitats Directive which focus on the conservation and restoration of the protected habitat.

NPS A 10 The National Raised Bog SAC Management Plan will provide for the restoration of raised bog SACs.

NPS A 11 An approach to the appropriate restoration measures of blanket bog sites selected for designation as SACs or NHAs will be considered as part of a national approach to the management of such sites, in compliance with relevant EU and national legal requirements and in full consultation with the local community and affected landowners.

4.3.4 Management of non-designated peatlands to stop carbon loss

Designated sites make up a small proportion of Ireland's peatlands and the majority of these are not in good conservation status. Opportunities to restore degraded non-designated peatlands will be explored. Carbon dioxide is constantly emitted to the atmosphere from drained peatlands and several management options should be considered, for example:

i Restoration of degraded non-designated peatlands should follow an adaptive management approach as each site is different in terms of site condition (e.g. the depth of drainage), historical disturbance, geographical location (catchment), ownership and local demands;

ii Restoration of degraded non-designated peatlands has the potential to provide for the continued preservation in situ of archaeological material within those deposits in accordance with the European Convention on the Protection of the Archaeological Heritage (Valetta) as an added benefit;

iii Water management in degraded peatlands should be optimised in order to combat carbon dioxide emissions from peat oxidation and preserve the palaeoinformation within the peat; and

iv Appropriate approaches should be explored for publicly owned and privately owned lands.

20 Renou-Wilson, F., C. Bullock, ,C. Farrell D. Wilson, and C. Müller. Carbon Restore – The Potential of Restored Irish Peatlands for Carbon Uptake and Storage. Johnstown Castle, Co. Wexford prepared for the Environmental Protection Agency (EPA), 2007.

4.3.5 Adaptation to Climate Change

The management and restoration of peatlands may offer considerable climate change mitigation opportunities. Peatlands are also vulnerable to climate change impacts. Options and opportunities exist to reduce this vulnerability through adaptation actions and to avail of cross-sectoral opportunities for adaptation benefits, e.g., in management of water resources. Peatland restoration, when appropriately targeted, can offer considerable resilience against ongoing impacts of climate change. Restoration usually involves techniques to stabilise eroding surfaces, re-establish peatland vegetation cover and raise the water table, and hence encourage waterlogged conditions that will enable peat to form again.

The policy framework for climate change adaptation in Ireland has been strengthened. In December 2012, the Minister for Environment, Heritage and Local Government published the 'National Climate Adaptation Framework - *Building Resilience to Climate Change*' which provides the policy context for a strategic national adaptation response to the inevitable impacts of climate change. Under this framework, relevant Government Departments, agencies and local authorities have been asked to commence the preparation of statutory sectoral and local adaptation plans and to publish drafts of these plans by mid-2014.

The EU policy framework on climate change has guided our national approach. The national framework envisages an integrated approach, involving all stakeholders at all institutional levels to ensure adaptation measures are taken across different sectors and levels of government to manage and reduce Ireland's vulnerability to the negative impacts of climate change. It provides a clear mandate for Government Departments, Agencies and Local Authorities to commence the preparation of sectoral and local adaptation plans.

The Framework provides that sectoral adaptation plans will be prepared by the relevant Department or Agency and will be adopted by the relevant Minister. It is proposed that draft sectoral plans will be published by mid-2014 and, following approval, should be revised at least every 5 years. However, where a Department is preparing a single sectoral plan covering both climate and mitigation policies, the timeframe for delivering and updating these plans will be the timeframe for the sectoral mitigation plans.

The spatial planning process, with full engagement of key stakeholders, provides an established means through which to implement and integrate climate change objectives, including adaptation, at local level. Under the Framework, local authorities will make an assessment of the extent to which existing development plans adequately address adaptation to climate change and, where they consider it necessary and appropriate, they will have a review process of their development plan underway by mid-2014. Local development planning will, in effect, become the mechanism for the delivery of local climate adaptation action.

ADAPTATION - PRINCIPLES

NPS P 27 Further research will be carried out into the potential contribution of functioning peatlands to Ireland's resilience and adaptation to climate change.

NPS P 28 The vulnerability of Ireland's functioning peatlands to the impacts of climate change will be assessed.

4.4 Nature Conservation and Peatlands

4.4.1 Peatlands Protected under the EU Habitats Directive

The Habitats Directive, adopted in 1992 and applicable to all 28 EU Member States identifies the following types of peatland habitat for protection:

- Active raised bog
- Degraded raised bog still capable of natural regeneration
- Active Blanket bogs
- Bog Woodland
- Fens
- Wet heath

In this context, "active" means that the conditions are right for continued peat formation (which, for example, may no longer be the case where bogs are drained). Degraded raised bogs still capable of natural regeneration are bogs

where peat formation could be expected to recommence provided steps were taken to repair damage and manage the bogs, for example, by managing drainage. Both raised bogs and blanket bogs, where active, are considered to be priority habitat types, which are in particular danger of disappearance within the EU.

Applying criteria set out in the Habitats Directive (see Appendix IV), Member States are required to ensure that a representative sample of the habitat is protected within Special Areas of Conservation (SAC) for the purposes of the Directive.

The designation process brought together the European Commission and each member state including Ireland, to determine the extent of designation that was required for each habitat type. This process concluded, in 2002, that Ireland was required to nominate further raised bog sites for designation as SACs.

Article 2 of the Habitats Directive states that the measures taken pursuant to the Directive shall take account of economic, social and cultural requirements in addition to regional and local characteristics. While this gives a measure of flexibility as to how aspects of the Directive are implemented, the European Court of Justice has held that these matters cannot be taken into account when countries select and define the boundaries of SACs,[22] nor do they obviate the requirement to comply with the stringent rules regarding how activities can be consented to within SACs and SPAs.

4.4.2 Special Areas of Conservation - Raised Bog

Between 1997 and 2002, Ireland nominated a total of 53 raised bog sites for designation as Special Areas of Conservation, which were selected for the presence of active raised bog habitat, degraded raised bog and bog woodland. The raised bog SACs contain most of the functioning remnants of the extensive raised bog complexes that once covered much of the midlands. What makes them so rare is that they still have substantial areas of active raised bog where the conditions are right for peat to continue to form and where the typical species of plants and animals can thrive.

In the years following the entry into force of the Habitats Directive, the Government brought to an end the commercial exploitation of the peatlands within raised bog SACs. Businesses affected were compensated for loss of earnings. In total over *€7m* has been paid in compensation in respect of commercial operators. In addition, Bord na Móna abandoned plans to commercially exploit significant land holdings it had within the SACs and ownership was transferred to the Minister responsible for nature protection.

A voluntary purchase scheme was also put in place to allow owners of land, or turbary rights, to sell their land or rights to the State. This scheme was introduced in 1999 and was enhanced in 2004. The State paid over €25m to purchase land or rights for over 2,400 hectares from over 1000 individual sales.

In 1999 the then Minister for Arts, Heritage, Gaeltacht and the Islands introduced a 10 year "derogation" to allow the continuation of domestic cutting while alternative solutions were being put in place. It was considered at the time that commercial turf-cutting presented the largest threat to these sites, and that a derogation would allow for time to phase out domestic cutting on SAC raised bogs. This "derogation" introduced by administrative means is part of the legal action which the European Commission is taking against Ireland.

However, the continued mechanised cutting for domestic use or sale and draining was found to be having a greater impact on the active raised bogs than had previously been realised. Studies carried out[23] showed that although the total area of high bog lost in the 10 year period up to 2005 amounted to only 1%, the loss in active raised bog amounted to 35% - a serious deterioration in the protected habitat.

The ending of the derogation period has recently brought to the fore issues which had not been adequately dealt with during the period of the derogation.

22 See the judgement of 7 November 2000 in Case C-371/98

23 Fernandez Valverde F., Fanning M., McCorry M. J. & Crowley W. 2005. Raised bog monitoring project 2004-05. Unpublished report. National Parks and Wildlife Service, Department of Environment, Heritage Local Government, Dublin. And the latest 2013 one.

LIFE FUNDING AND IRELAND

Launched by the European Commission in 1992, LIFE (The Financial Instrument for the Environment) is one of the spearheads of the European Union's environmental policy. LIFE contributes to the implementation, development and enhancement of the Community's environmental policy and legislation, as well as to the integration of the environment into other EU policies.

Beneficiaries from LIFE projects include small and international enterprises, national and local authorities, NGOs, research institutions and inter-governmental bodies.

Since the launching of the LIFE programme, a total of 54 projects have been financed in Ireland. Of these, 38 focused on environmental innovation and 16 on nature conservation. These projects represent a total investment of €110 million, of which €46 million has been contributed by the European Union.

To date, LIFE projects in Ireland have included the reintroduction of the Golden Eagle and two restoration projects for Raised and Blanket Bogs. Further details of all projects are available at http://ec.europa.eu/life.

4.4.3 Special Areas of Conservation - Blanket Bog

Under the Habitats Directive 50 areas have been identified in Ireland as Special Areas of Conservation for the protection of blanket bog. These SACs include lowland and mountain blanket bogs areas predominantly along the western seaboard but also widely distributed on upland areas. The climatic conditions required for the formation of blanket bogs, found particularly on the western seaboard, are only found in limited locations around the globe, for example, Scotland and Norway in the northern hemisphere or New Zealand and Argentina in the southern hemisphere.

Many of these SAC sites identified for protection of blanket bogs are extensive and include complexes of other habitats such as heaths, grasslands and aquatic habitats also listed for protection by the Habitats Directive. Some of these SACs have boundaries that were drawn to protect river catchments and can encompass areas of cutover or degraded blanket bog.

Blanket bog habitat in Ireland once covered an estimated 765,890 hectares. Centuries of peat cutting, reclamation, burning, drainage, afforestation, and in recent decades, overgrazing and infrastructural developments have depleted the area of healthy blanket bog. The estimated current area of blanket bog within the 50 SACs is 150,750 ha.

Livestock grazing has been a significant pressure on blanket bogs and is considered in Section 4.2.

The approach adopted in relation to turf cutting on Blanket Bog SACs was that peat extraction from shallow, marginal areas of dry/degraded blanket bog could be compatible with the objectives of the Habitats Directive, but that no new banks should be exploited. Commercial cutting and extraction with extrusion machines (i.e. "sausage machines") was not considered compatible and was prohibited on blanket bog SACs. It is anticipated that turf-cutting will be able to continue within blanket bog SACs. However, more sensitive areas will need to be avoided.

It is clear that to meet the requirements of the Habitats Directive, greater clarity is needed to be brought to the process of how turf-cutting in these areas is to be managed, which must be done in compliance with the requirements of the Habitats Directive and Environmental Impact Assessment Directive. Existing cutting and draining activities will need to be brought within an appropriate regulatory framework. This will be done in accordance with Action NPS A.17 (section 4.6).

4.4.4 Fen SACs

There are 53 Alkaline and Calcerous Fen SAC sites in Ireland. The original extent of fens in the Republic of Ireland was 92,508ha (Hammond, 1979).

There is a particular lack of environmental baseline data for fen habitats such as accurate location maps or site specific conservation information. This presents difficulties for authorities in assessing potential impacts of plans or programmes and baseline data will be required for fens to allow more detailed evaluation of these habitats and the identification of conservation or restoration measures.

FEN - ACTION

NPS A 12 The Office of Public Works, in co-operation with the Department of Arts, Heritage and the Gaeltacht will progress a pilot Conservation Management plan for a fen SAC, including specific examination of the implications for drainage. This pilot will allow for more elaborated conservation objectives to be prepared for the fen habitat in general.

4.4.5 Peatlands Protected under the Wildlife Acts

In the late 1980s and early 1990s surveys of raised and blanket bog were commissioned by the National Parks and Wildlife Service in order to identify a range of sites containing habitats that required protection; initially as Areas of Scientific Interest and subsequently as proposed Natural Heritage Areas (pNHAs).

The most important raised and blanket bog areas which were originally identified as being of ecological merit (initially as part of the surveys for Areas of Scientific Interest) were selected for designation as Special Areas of Conservation in accordance with the designation

THE CONTRIBUTION OF BORD NA MÓNA TO PEATLAND CONSERVATION

SUMMARY

From its establishment by Government in 1946, Bord na Móna PLC was charged with and has developed some of Ireland's extensive peat resources on an industrial scale primarily for fuel, energy and horticultural growing media. As part of this development, the company acquired extensive areas of peatlands, together with small areas of other lands and properties. These lands extend in total to about 80,000 hectares.

At one time, it was anticipated that this vast land resource might be widely used for agriculture and forestry following the cessation of peat production. However, following extensive trials and experiments, Bord na Móna has concluded that the future of the land bank lies in a wider mix of uses, with special regard to:

- The role that peatlands can play in continuing to supply energy to the country, both through traditional fuels and renewables;
- Their potential to meet national and regional land requirements for infrastructure and industry;
- The benefits they can bring in terms of recreation and amenity; and
- Their contribution to Ireland's national biodiversity targets.

Some of the land bank is now out of peat production and is used for a variety of purposes, including wind energy, forestry, tourism, amenity, biodiversity and industry and other uses are being planned. The Company's approach to its lands is outlined in detail in its published document *Strategic Framework for the Future Use of Peatlands*.

Bord na Móna has played its part in peatland conservation in Ireland in the past when the company transferred over a significant number of sites to the state during the 1970's, 1980's and 1990's that now form part of the network of protected peatlands in Ireland and includes raised bog Special Areas of Conservation. In 1987 the Company adopted the following policy "Bord na Móna fully recognises and accepts the need to preserve representative examples of different bog types, as well as areas of special natural beauty and significance".

As a result of this policy 6500 Hectares has been transferred by Bord na Móna to the National Parks and Wildlife Service for conservation purposes. This includes over 1600 Hectares of Blanket Bog, 28 Hectares of Fen and over 3000 Hectares of Raised Bog. These sites are listed in detail at Appendix X, and included over 95% of Clara Bog, one of the most important conservation sites for Raised Bog in the world.

As part of an agreement in 1990 with the National Parks and Wildife Service, Bord na Móna agreed not to acquire, or consider for acquisition a further 22 sites (5242 Hectares) of privately owned raised bog considered by the NPWS at the time to be worthy and suitable for conservation. These 22 sites were excluded from the Board's Development Plans.

Bord na Móna continued to develop its biodiversity strategy and corporate biodiversity objectives, beginning a baseline ecological survey of all of its bogs in 2009 and producing a Biodiversity Action Plan in 2010. Several partially-drained, but undeveloped bogs that are part of Bord na Móna's current land-holdings, were identified as having high biodiversity value and bog restoration potential. Bord na Móna has already carried out extensive restoration works at several of these sites including Abbeyleix Bog, Derrydoo-Woodlough Bog and Cuckoo Hill Bog, as part of its ongoing bog restoration project, and plans to continue restoration work at several other bogs. These sites, among other Bord na Móna sites, were considered as part of the review of the national raised bog resource undertaken by the NPWS in 2013.

Bord na Móna has also recently worked with NPWS in attempting to resolve some of the turf-cutting issues affecting raised bog SACs, by providing alternative sites for turf-cutters as compensation for stopping turf-cutting within SACs. One such site has already been developed at Kilaranny Bog in Co. Offaly and 23 turf-cutters have been relocated from Clara Bog SAC to this site. Plans to develop several other re-location sites are continuing.

criteria set out in the Habitats Directive. However, this left additional important areas of habitat which merited recognition and protection under Irish law. This has been afforded by the designation of Natural Heritage Areas (NHAs) under the Wildlife Acts.

4.4.6 Raised Bog Natural Heritage Areas

75 raised bog Natural Heritage Areas have been formally designated under the Wildlife Acts. The criteria used for identifying raised bog and blanket bog Natural Heritage Areas are set out in Appendix III. The sites were designated in part response to an infringement action brought against Ireland by the EU Commission relating to the application of the Environmental Impact Assessment Directive to the extraction of peat.

The Wildlife Acts provide protection to NHAs through a requirement for certain, potentially damaging activities to require Ministerial consent before being undertaken. Turf-cutting, drainage works and afforestation are typically listed as activities that require such consent. Consequently, in the case of afforestation and tree felling there is a dual consent process, as these activities also require the consent of the Minister for Agriculture, Food and the Marine. The derogation that applied to domestic turf-cutting in raised bog SACs was also applied to NHAs and is still in place. These requirements have not, therefore been generally implemented in regard to turf-cutting. Provision is made for the Minister to allow for damaging activities where imperative reasons of overriding public interest exist.

4.4.7 Raised Bog NHA Review

A comprehensive review of raised bog Natural Heritage Areas (NHAs) and undesignated raised bogs of conservation value has informed a radical reconfiguration of our network of NHAs. This will provide for significantly improved conservation outcomes while avoiding areas that are subject to significant turf-cutting. It will markedly reduce costs for the taxpayer. A number of Bord na Móna owned bogs which have been subject to focused conservation and restoration effort by the Company, will be included in the NHA network. Other sites of conservation value where there is little or no turf-cutting pressure will also be included. It is anticipated that many sites that are currently raised bog Natural Heritage Areas will be de-designated as part of this process. This will also assist in underpinning protection of raised bog SACs. The details of this review and framework for the future management of these sites is outlined in Apprndix VI.

4.4.8 Blanket Bog Natural Heritage Areas

The various peatland surveys carried out in the 1980s and 1990s identified potential sites of conservation interest for blanket bog habitat. Of these, 50 were subsequently nominated for designation as blanket bog Special Areas of Conservation (SACs) under the Habitats Directive, as referred to above. A further 73 sites containing blanket bog habitat were designated as NHAs.

Part of the current infringement action against Ireland relates to compliance with the EIA Directive in the regulation of peat extraction from NHAs. This will be fully addressed in tandem with the elaboration of the approach to the future regulation of such activities on blanket bog SACs .

4.5 Legal Action against Ireland in relation to EU law regarding peatlands

In 1999 Ireland had a judgment[25] against it in the Court of Justice of the European Union in relation to the application of the Environmental Impact Assessment Directive to peat extraction. The issue of peatland protection under that Directive and under the Habitats Directive continues to give rise to concern by the European Commission.

Following the issuing of a Letter of Formal Notice in January 2011, the European Commission commenced an additional legal case against Ireland by issuing a Reasoned Opinion in June 2011 in relation to the implementation of European Law regarding habitat protection and peat extraction. Issues alleged against Ireland include:

- That continued peat extraction on raised and blanket bog SACs and NHAs is causing negative environmental impacts and that the legal provisions in relation to protections under the Habitats and Environmental Impact Directives were not being applied in practice;
- That Ireland is under an obligation to repair, or compensate for, the damaged to SAC habitats since sites were selected;
- That the obligations under the Directive, and Irish regulations, to assess turf cutting were not applied in practice as a result of the non-statutory "derogation" for domestic turf cutting introduced in 1999;
- That Ireland had never sought an exemption for continued cutting, for overriding public interest, in accordance with the Habitats Directive, (including the requirement to show that no alternatives existed or that compensatory measures could be taken); and

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- That notwithstanding changes to Environmental Impact Assessment regulations in response to the 1999 judgment[26] of the European Court of Justice that Ireland is still not applying that Directive to peat extraction projects in Ireland in practice.

This Infringement case is being addressed through a suite of initiatives including the drafting and implementation of a National Raised bog SAC Management Plan, the raised bog NHA Review and measures to be undertaken to bring turf-cutting within blanket bog SACs and NHAs into compliance with the requirements of the Habitats Directive and EIA Directive. Measures contained in this Strategy will also assist in bringing greater regulatory control to the management of Ireland's peatlands.

ADDRESSING INFRINGEMENTS - ACTIONS

NPS A 13 The 53 raised bog SAC sites host the most important raised bog habitat and will be subject to the highest level of protection. A cessation of turf-cutting on these sites has been effected and the Government has put in place compensation and relocation schemes. Outstanding issues will be addressed through a National Raised Bog SAC Management Plan, a draft of which has been prepared to give clarity on how these sites will be managed and restored and how the interests and concerns of turf-cutters and land-owners will be addressed. The Plan will explore the possibility of applying some limited flexibility, within the terms of the Habitats Directive, where options for relocating turf-cutters are limited. See Appendix V.

NPS A 14 A review of Ireland's raised bog NHAs has also been undertaken with a view to providing scientific clarity on the contribution of these sites to the conservation of Ireland's raised bog resource, certainty to land-owners in regard to how activities such as turf-cutting are to be regulated and assurance on how the requirements of EU law are to be met. See Appendix VI

NPS A 15 Ireland is obliged to devise and implement a system of management that will ensure that turf-cutting on blanket bog continues in such a way that will not threaten the integrity of SACs. The Department of Arts, Heritage and the Gaeltacht will issue a request for tenders in 2014 to provide the scientific basis for the most appropriate system of management. It is envisaged that a number of pilot areas will be chosen in which management plans will be drawn up in consultation with local communities to ensure that these important peatlands are managed in compliance with EU law and to ensure sustainable use of the peat resource for the benefit of the community. An approach to the regulation of such activities on raised bog NHAs will be developed in parallel.

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4.6 Turf Extraction, Planning and Environmental Protection

4.6.1 Policy Context

Legal requirements in relation to peat extraction and the planning process have evolved since the planning system was introduced in October 1964. Developments since 1990 have been extensive but some of the main changes are summarised below.

The Local Government (Planning and Development) Act, 1963, introduced the general requirement for planning permission for development. However, the Act provided that the use of land for agriculture including the use of land for turbary was exempted from the requirement to obtain planning permission.

Subsequently, the EU Directive on Environmental Impact Assessment required that certain developments were made subject to environmental impact assessment (EIA) before development consent could be given to carry out the project. Peat extraction is one of the categories included in the Directive.

Ireland first transposed the Directive on Environmental Impact Assessment in 1989 in the planning process through the European Communities (Environmental Impact Assessment) Regulations, 1989. The transposition of the Directive required that proposals for peat extraction over 50 hectares would require assessment under the Directive. Turf extraction was therefore, brought into the planning system for the first time.

However, the European Court of Justice in 1999 considered that a size threshold on its own could not take into account areas of particular environmental sensitivity, and that Ireland's transposition did not therefore meet the requirements of the Directive. The Court also considered that the discretion available within the Directive to set thresholds or criteria for deciding on when an Environmental Impact Assessment could be required, could be exceeded by not taking account of the cumulative impact of projects which, taken together, could have a significant impact on the environment. This was of particular relevance to bogs. The Court noted "Ireland has not denied that no project for the extraction of peat has been subject of an impact assessment, although small-scale peat extraction has been mechanised, industrialised and considerably intensified, resulting in the unremitting loss of areas of bog of nature conservation importance".

In response to this judgment, the legal requirements in relation to peat extraction were tightened to require environmental impact assessment (and planning permission) for all peat extraction projects above 30 hectares and below that limit if the project related to a proposed Special Area of Conservation or Natural Heritage Area, and where it could have significant impact on the environment.

This change was effected by the European Communities (Environmental Impact Assessment) (Amendment) Regulations, 2001.

Furthermore, the parallel Local Government (Planning and Development) (Amendment) Regulations, 2001 provided that peat extraction which would involve a new or extended area of 10 hectares or more would not be exempted development. The effect of these two Regulations as regards peat extraction, was that in effect from 10 December 2001, planning permission was required for peat extraction in a new or extended area of 10 hectares and EIA became mandatory for peat extraction in a new or extended area of 30 hectares.

Most recently, the Planning and Development Regulations 2011 further provided that the exemption did not apply where the extraction would be likely to have significant effects on the environment.

Practical implementation of the EIA Directive through planning law, particularly in relation to private turf extraction projects, has proved very difficult for a variety of reasons including:

- Uncertainty about the ownership of peatlands, which are often not registered;
- The increasing trend towards peat extraction by contractors, whose scope of operations may span lands controlled by many individuals with turbary rights; and
- Statutory requirements in relation to the prescribed content of planning applications.

While the implementation of the EIA and Habitats is a clear legal requirement, the regulation of peat extraction activities under the planning code has been problematic.

Moreover, existing legal provisions for the regulation of peat extraction through planning permission/EIA overlap with IPC licence requirements and consent functions of the Minister for Arts, Heritage and the Gaeltacht in regard to SACs and NHAs. This has lead to some uncertainty on behalf of turf cutters, local authorities and the EPA as to what activities are authorised and what activities require permission.

4.6.2 Time for change?

The issues that have arisen in relation to the cessation of turf cutting on SAC raised bogs have brought to the fore the fact that the cutting of turf for domestic purposes has changed dramatically in recent decades. Traditional

cutting by hand has all but died out, save in some exceptional cases, although the footing and collecting of turf remains a labour intensive job.

Owners of bog plots and those with turbary rights largely contract out the work of cutting turf to third party contractors, who in turn, have invested significantly in specialist machinery.

The adequacy of Ireland's regulatory control system in providing an effective consent system for assessing the impacts of peat extraction on the environment is in question. This relates both to controls under planning and wildlife conservation laws. Neither the more sensitive controls applied in designated areas nor the less stringent controls in non-designated areas are seen to be satisfactory.

THE NEED FOR APPROPRIATE AND PROPORTIONATE CONTROLS

It is clear that the State must have appropriate and proportionate controls in place to regulate activities which can have undesired environmental consequences. This is also necessary to meet Ireland's obligations under EU law.

Environmental regulation has become more stringent in recent decades across all environmental media, with consequent improvements in air and water quality leading to significant public health benefits. Many sectors, which had previously operated in an under-regulated fashion have now been subject to more appropriate regulation – which in turn has facilitated the professionalisation of those sectors. Recent examples include improved regulation of the waste sector. In addition to environmental benefits, this ensures that such sectors are brought in from the black economy and contribute their fair share of taxes to pay for public services. The Government has also taken steps to address outstanding issues of environmental protection and industry regulation as with the registration system for septic tanks or the recent plans announced to ensure that all builders are registered.

The Government has no intention of ending the traditional right to cut turf for a person's own domestic use. However, it is necessary to put in place appropriate controls of what is now, in effect, a commercialised industry and to respond to new challenges. Some issues which arise include:

- The unregulated sale of sod turf, on which tax is not paid;
- Unused plots being exploited without the permission of owners, with turf then being sold on;
- The use of inappropriate machinery (such as sausage machines) which undermines bogs, and which has been seen to cause landslips with damage to public infrastructure, waterways and risk to human safety;
- The willingness of a small number of contractors to undertake illegal turf-extraction from protected bogs, risking fines against the State and necessitating the deployment of scarce public resources for law enforcement purposes; and
- Water quality issues caused by unregulated drainage operations to facilitate cutting.

As the turf cutting sector has become commercialised and mechanised the State has a duty to ensure that people's property rights are respected, that inappropriate extraction methods are not used, that environmental damage is not being caused and that commercial cutting should not operate under the guise of domestic cutting.

Once that principle is accepted the issue becomes one of the most appropriate system of regulatory oversight. In the case of turf cutting this will very much depend on the peatland concerned.

4.6.3 Proposed way forward

NON-DESIGNATED PEATLANDS – SMALL SCALE CUTTING.

By the very fact of their non-designation these peatlands are not of the same important conservation value as those chosen for designation. Nonetheless, uncontrolled cutting by commercial operators can cause environmental damage, as set out above. Issues regarding the black market and protection of property rights are also pertinent. In these cases a light regulatory control system would be most appropriate. Given the extent of non-designated peatland, the gaps in land ownership information and the numbers of people involved, regulation may be more appropriately directed at commercial contractors rather than individual landowners.

The waste management system offers a model whereby a permitting system was introduced to cover small scale waste management activity - being regulated by the local authority. It is proposed that a similar permitting system would be introduced to regulate contract turf cutting in non-designated areas. Requirements relating to the registration of turf-cutting contractors and the registration and display of unique identification numbers for specified machines would be developed as part of the regulatory system.

A permitting system would require contractors to register their equipment, detail the peatlands on which they cut, the plots cut, and record the quantities extracted. Permits would impose controls for environmental protection

reasons. As discussed in section 4.2 above, recent experiences with the waste management and agriculture/forestry sectors point towards the merits of a regulatory framework specifically designed around the characteristics of the sector being regulated, rather than using a standard planning system template.

Evolution of the regulatory framework as regards peat extraction activities should address:

- The need for locally endorsed and nationally consistent plans for the long-term management of Ireland's remaining and non-designated peatlands areas;
- Within the areas above, the distinction between hand winning and machine extraction of turf;
- The distinction between contractors, who generally mechanically harvest peat on a commercial basis, and holders of turbary rights/peatland owners;
- The seasonal nature and transient locations of peat extraction activities;
- The need to uphold good environmental practices in all peat extraction activities;
- The EU law requirement for clarity around who is responsible for procedures under the EIA/Habitats Directives; and
- Provision for proper reporting, monitoring and compliance systems to ensure application of proper environmental standards and effective national data systems to track the extent and impact of extraction activities, feeding back in to policy development.

4.6.4 Designated Areas

Designated areas require higher levels of protection. Turf-cutting in raised bog SACs requires explicit consent under existing legislation. While such continued cutting will be rare, due to the impact of turf-cutting on such sites, exceptional cases can be consented to as outlined in the draft National Raised Bog SAC Management Plan. Arrangements for the permitting of turf-bank owners and contractors on raised bog NHAs is considered further in Appendix VI.

In relation to protected blanket bogs (SACs and NHAs) the approach to continued turf-cutting on these bogs this will be elaborated though a management planning system. Permitted contractors will be required to operate in accordance with these management plans. These requirements will be elaborated in consultation with stakeholders and affected parties.

4.6.5 Protection of National Monuments

The National Monuments Acts also provide for a range of protections in relation to the archaeological heritage. Private owners of peatlands or those who commission or carry out work (including horticultural peat producers) need to be aware of their obligations in terms of works in proximity to monuments included in the Record of Monument and Places under Section 12 of the 1994 National Monuments Amendment Act.

REGULATION OF TURF-CUTTING - ACTIONS

NPS A 16 The existing legal framework relating to the regulation of peat extraction in terms of planning, environmental protection and habitats protection will be reviewed, and recommendations developed to bring about a clearer, proportionate and enforceable system of regulation that also ensures compliance with appropriate EU environmental legislation and to ensure best-practice in peat extraction operations.

NPS A 17 Ireland will devise and implement a system of management that will ensure that turf-cutting on blanket bog SACs continues in such a way that will not threaten the integrity of the sites. Management plans will be drawn up in consultation with local communities to ensure that these important peatlands are managed in compliance with EU law and to ensure sustainable use of the peat resource for the benefit of the community. Work will commence on preparing such plans in the coming months.

NPS A 18 Consideration will be given to ending the use of the sausage machine, or to allow its use in specific areas only, under permit. Turf-cutting contractors and other interested parties will be consulted in the course of the development of such proposals.

NPS A 19 Turf-cutting on raised bog NHAs will be undertaken in accordance with the provision laid down in Appendix VI.

NPS A 20 The Department of Arts, Heritage and the Gaeltacht, Geological Survey of Ireland, Ordnance Survey Ireland, the Department of Environment, Community and Local Government, Property Registration Authority, the Department of Agriculture, Food and the Marine and local authorities will continue to cooperate to generate improved baseline information as to the extent of extraction activities and information on land ownership and turbary rights and information on the extent and physical (including geotechnical) aspects of Ireland's peatlands.

RESPONSIBLE EXPLOITATION

NPS A 21 Bord na Móna is committed to ensuring that the use of the existing drained bogs and peatlands will be in accordance with the International Peat Society's Strategy for Responsible Peatland Management. Other peat extracting companies will be encouraged to sign up to this strategy.

NPS A 22 All peat extracting companies – both public and private operators – will be brought fully within the relevant applicable regulatory codes.

4.6.6 Appropriate Assessment Guidance

Appropriate Assessment is a procedure provided for in Article 6 of the Habitats Directive which seeks to establish if projects or activities could lead to the destruction or deterioration of a Natura 2000 site (SAC or SPA).

NPS A 23 To ensure compliance with article 6 of the Habitats Directive, further guidance will be developed in relation to Appropriate Assessment of plans or projects involving peatlands. Special attention will be given where exploitive utilisation (including turf cutting) is taking place on or near protected sites.

NPS A 24 Emphasis will be put on the need to address cumulative/in - combination effects arising from other projects, including non-peat extraction projects (e.g. wind farms). The existing regulatory system will be reviewed to ensure that all relevant peat extraction is subject to AA. In addition, the assimilative capacity of the peatland to absorb impacts will be considered.

4.6.7 Wind Farm Development

From an environmental and ecological viewpoint, the switch in electricity generation from fossil fuel based systems towards renewables, including wind, is to be welcomed.

The Department of Communications, Energy and Natural Resources is currently developing a Renewable Energy Export Policy and development framework for completion by late 2014 and this will provide the opportunity to integrate relevant EU Directive requirements (including Strategic Environmental Assessment and Appropriate Assessment), trans-boundary dimensions and stakeholder participation within the context of a national framework.

Guidelines for planning authorities in relation to wind energy development were introduced in 2006. These guidelines provide statutory advice to planning authorities on planning for wind energy through the development plan process and in determining applications for planning permission. The guidelines are also intended to ensure a consistency of approach throughout the country in the identification of suitable locations for wind energy development and the treatment of planning applications for wind energy development using a plan led approach.

The guidelines are currently the subject of a focused review in relation to noise and shadow flicker aspects.

The consideration of wind farm development on peatlands as distinct from non-peatland areas needs to take account of additional matters including, inter alia, the potential impact of site development works on fisheries habitat including river and streams; the management of extracted peat and prevention of the potential hazard of bog flows and peat failures and risks that might result from same.

WIND FARMS - ACTION

NPS A 25 The finalisation of the focused review presents an opportunity to present updated guidance on the matters above and in relation to appropriate assessment and environmental impact assessment aspects. Specific guidance in relation to appropriate assessment will be included in the revised guidelines. This will be informed by guidance from the European Commission regarding such developments on Natura 2000 sites. Consideration will also be given to the inclusion of guidance relating to a requirement for the assessment of the peat strength over the profile depth by reference to new tools developed within the BOGLAND project to be used in stability assessment.

4.7 Requirements for Integrated Pollution Control (IPC) Licences

Integrated Pollution Control (IPC) licences are required for the extraction of peat in the course of a business involving an area in excess of 50 hectares. An IPC licence is a single integrated licence which covers all emissions from the installation and its environmental management. All related operations that the licensee carries out in connection with the licensed activity are controlled by this licence. Currently, Bord na Móna is the only organisation involved in peat extraction which carries out its activities under this licensing regime.

The EPA administers the IPC licensing system and is responsible for issuing such licences and regulating compliance with licence conditions. Before a licence is granted, the EPA must be satisfied that emissions from the activity will not cause a significant adverse impact on the environment. The role of IPC licensing in the regulation of turf-extraction will be considered in the review outlined in section 4.6.

4.8 Water Quality, Water Framework Directive and Flooding

Development activities, including agriculture, forestry and peatlands extraction, should be carried out in a manner that minimises environmental damage, realises opportunities for environmental protection and enhancement, and contributes to the State meeting its objectives and obligations relating to water quality as well as climate and nature.

The Water Framework Directive (WFD) (2000/60/EC) (WFD) seeks to ensure the sustainable management and protection of water resources. It requires an integrated, approach across all sectors - agriculture, industry, spatial policy etc – on a river catchment basis. Amongst its objectives are to:

- achieve good ecological and chemical status in surface waters and groundwaters;
- achieve objectives and standards for protected areas;
- prevent deterioration;
- reverse pollution trends;
- reduce pollution from priority substances; and
- cease or phase out emissions, discharges and losses of priority hazardous substances.

River Basin Districts (RBDs) must be established and detailed management plans for each such district be prepared by member States, in three planning cycles viz 2009-2015, 2016-2021 and 2022-2027. During these cycles, the management measures must be implemented so as to achieve good ecological status in all surface waters and ground waters.

The plans require the integration of water policy objectives with other relevant sectoral policies. They require the participation and co-operation of a wide range of Government Departments and other public agencies which have statutory functions in relation to water management.

The WFD also requires environmental objectives to be set, to be achieved through programmes of measures.

Amongst the implementing regulations, both the Surface Water and Groundwater Environmental Objectives Regulations (SI 272 of 2009 and SI 9 of 2010) assign a duty on all relevant public bodies to carry out their function in a manner which will contribute to the achievement of the environmental objectives (at the least, good ecological status) contained in river basin plans. The Surface Waters Regulations also introduced environmental water quality standards for a range of substances which must now be taken account of when authorising discharges. This will be amended to add substances newly listed in the 2013 update of the EU Directive on Priority Substances in Water.

Under Article 11 of the WFD, the programmes of measures require, in some 5,500 of our water bodies, control of inputs to watercourses of phosphorus, nitrogen and oxygen-using matter, as well as pathogens. They also require complete elimination of dangerous substances (e.g. mercury) and control of specific pollutants to protect aquatic communities and human health.

Ireland will not achieve good ecological status by 2015, and is at risk of declining water quality standards over the period of the second-cycle plans, 2015-2021. If the trend is not arrested, it will lead to infringements from the European Commission and significant penalties and reputational damage.

4.8.1 Main pressures on water quality

The most recent EPA assessments show that approximately 71% of river channel is classed as unpolluted in Ireland – achieving at least good ecological status. However, approximately 29% of monitored river channel length is polluted to some degree.

In lake water quality, only 46.6% of the monitored lakes are achieving the targets of the WFD. A reduction in the total amount of nutrients delivered to lakes via their tributary rivers is a key focus of the WFD programme of measures.

Margaritifera sp. (Photo: A. O'Connor)

FRESHWATER PEARL MUSSEL

Freshwater pearl mussels, *Margaritifera margaritifera* and *M. durrovensis*

The freshwater pearl mussel (Margaritifera margaritifera) is a species of bivalve mollusc that lives in rivers and lakes – a larger, freshwater relative of the edible mussel. It is a highly threatened animal, recently categorised as critically endangered across Europe (Cuttelod et al., 2011). It is also recognised as critically endangered in Ireland (Byrne et al., 2009). 90% of all freshwater pearl mussels are known to have died out across Europe during the twentieth century.

Owing to its threatened status and dramatic decline, the freshwater pearl mussel is listed on Annex II and Annex V of the Habitats Directive. The status of the species across the EU was assessed in 2007 and found to be bad throughout. In Ireland, all populations of the species were considered unfavourable bad. The main cause of the poor status and the ongoing decline of the species across Ireland and Europe is sedimentation and enrichment (eutrophication) of its habitat.

Freshwater pearl mussels are widespread in Ireland, occurring in more than 130 rivers and a handful of lakes. The national population of adult mussels has been estimated at in excess of 12 million, however, these figures mask the reality that this is a species in severe decline and, in many cases, unable to reproduce because of poor water quality.

There are 19 Special Areas of Conservation for the species in Ireland. The 19 SAC include 27 separate mussel populations. There are many populations, however, that lie outside of SAC.

In 2009, Regulations (S.I. 296 of 2009) were made to set environmental quality objectives for freshwater pearl mussels in the 27 SAC populations. The Regulations also required the preparation of Sub-basin Management Plans, with associated Programmes of Measures, for the 27 catchments.

Municipal and agricultural sources represent the main potential sources of dangerous substances to the water environment in Ireland. The principal measures in the Irish river basin management plans are those directed at them. Control is exercised under the Urban Waste Water Treatment Regulations 2001 (S.I. No. 254 of 2001, as amended), the 2007 Waste Water Discharges (Authorisation) Regulations (S.I. No. 684 of 2007) and the 2010 European Communities (Good Agricultural Practice for the Protection of Waters) Regulations (S.I. No. 610 of 2010) – "the GAP regulations".

The GAP regulations are the basic national measure for dealing with pollution from agricultural sources, both point and diffuse.

The suspected causes of pollution at over 900 river sites surveyed in 2007–2009 (from a total of over 2500 monitoring sites) (Source: EPA) (Ireland's Environment 2012) were:

- Agriculture **47%**
- Municipal **37.5%**
- Forestry **4%**
- Industrial **4%**
- Miscellaneous **4.5%**
- Peat Harvesting **1%**
- Engineering works **1%**
- Aquaculture **1%**

Groundwater status is heavily dependent on surface water. Focusing measures on rivers, where monitoring has identified particular causes of pollution, will help reduce pollutant loading to lakes and coastal waters as well as improving river quality.

4.8.2 High Status Sites

Experience has shown that the GAP Regulations may not be sufficient to protect high-status water bodies in all cases. The number of high-status waters has declined significantly in recent decades. Site-specific, targeted interventions are needed in the catchments with such sites to prevent further loss and to protect and restore high-status water bodies of all types. These high-status sites are susceptible to degradation due to pressures such as field drainage, turf cutting, fertilisation, tree planting, tree felling, house-building, onsite waste water treatment plants, insecticide usage, road building and wind farm construction.

DAFM, local authorities and the EPA licensing and enforcement activities have important roles in the regulation of, e.g. land spreading of slurry generated through intensive agricultural activities as well as large-scale peat extraction. However, the impacts of these pressures are not always easily controllable under current legislation. There is a pressing need to develop site-by-site actions for the water bodies reported as being at less than good status. For example, special sub-basin plans have been prepared for freshwater pearl mussel catchments, which require very high standards of protection. The GAP regulations and Ireland's Nitrates Action Programme, and Planning and IPPC licensing in general can be made more effective by supplementary, detailed nutrient management planning in particularly sensitive catchments. With prioritisation and breakdown to local level, together with on-the-ground actions, progress can be made.

4.8.3 The role of peat run-offs in pollution

Peat extraction can cause water pollution if not properly managed. Associated disturbance of land releases substances which may reach watercourses, including iron - and even mercury (absorbed from the atmosphere). To avoid pollution, water discharged from significant turf cutting operations should be treated as industrial wastewater. The water table is also lowered by peat extraction, leading to higher concentrations of the polluting substances in the reduced water volume.

Peat drainage releases the following pollutants:

- **Turbidity**, suspended solids and phosphorous from erosion of the excavation areas and ditches. Cloudy water can lead to the death of some fish species and other aquatic life, including waterfowl and other fauna and flora. They can also reduce the availability of dissolved oxygen as they decompose. Phosphorous is a nutrient that leads to excessive algal growth, exacerbating the pollution problem.
- **Acidity** (low pH): Drainage aerates the peat and releases acids (often nitric acid and sulphric acid). Acid waters can kill fish and aquatic life, and limit egg production and hatching.
- **Aluminum**: Acid waters in peat drainage help to dissolve aluminum from the peat and carry it downstream. Aluminum can be highly toxic to fish and other aquatic life.
- **Ammonia**: Peat drainage causes decomposition of much of the soil to release ammonia. Certain forms of ammonia are very toxic to fish and other aquatic life.
- **Iron**: Acid waters in peat drainage also dissolve iron. Iron also can be released when attached to suspended solids. Iron deposits can clog fish gills and deposit harmful scums on stream, lake and wetland bottoms.
- **Mercury**: Mercury can be released during peat drainage. It is very toxic to fish, and accumulates through the food chain. Mercury in watercourses, in particular, is classified as a *Priority Hazardous Substance* under the WFD. It is absorbed in peatlands from the atmosphere. Elemental mercury can be converted to methyl mercury, a toxic form, by aquatic bacteria in lake sediments and wetlands. Methyl mercury is concentrated as it moves up the aquatic food chain, with large game fish having the highest concentrations.

There are several methods of water pollution control in peat extraction. One is peat runoff control. This collects suspended solids leaching from peat extraction areas in the bog's ditch network. This can be done by constructing pipe dams in connection with the sedimentation basin or in main drains. The damming of water in the ditches reduces the flow velocity, and as a result, suspended solids deposit on ditch beds.

Laboratory tests and theoretical simulations have shown that with peak runoff control, the suspended-solid loads deriving from peat mining areas can be reduced by 88%. A study conducted in the summer of 1996 on a peat mining area in Central Finland showed that the loss of suspended solids with peak runoff control was 53–88% - and up to 95% during peak flows caused by snow-melt. Reduced suspended-solid loads also decrease the loading of nutrients bound by suspended solids.

WATER QUALITY – PRINCIPLES AND ACTIONS

NPS P 29 Policies and decisions relating to the use of peatlands shall take full consideration of potential impacts on water quality and the attainment by the State of mandatory water quality standards.

NPS A 26 An assessment shall be undertaken of the additional costs of treating drinking water arising from peatlands degradation and options proposed for reducing such costs through appropriate peatlands management.

4.8.4 Flooding

In response to recent flooding events, and in anticipation of more frequent and perhaps more severe events in the future owing to climate change, restoring the natural functioning of wetlands (floodplains in particular) to accommodate more frequent and severe flooding may provide a range of benefits including flood defence for urban areas, biodiversity enhancement and improved water quality (English Nature Joint Statement, 2003). Murphy & Charlton (2006) report predictions of rainfall increases of 17% in western areas of Ireland; possibly as much as 25% in places under climate change scenarios.

Increasing national and international attention is therefore being paid to wetlands for their potential in flood attenuation and planning authorities will be expected to give much greater emphasis to this role in future. Water retention by peatland surfaces may attenuate and delay runoff events, and may be enhanced by the morphology of the peat catchment. However, the flood mitigation role of peatsoil wetlands may be overstated and it has been recognised for many years that not all peatlands reduce storm flows, particularly in winter. This study[27] found that generally the influence of wetlands in reducing flood peaks

27 pg14. Williams, L., Harrison, S. and O'Hagan A M. (2012) The use of wetlands for flood attenuation. Report for An Taisce by Aquatic Services Unit, University College Cork.

is greatest for high frequency, low to medium intensity rainfall events that occur when wetlands have a large capacity for storage. It is least for large magnitude events, particularly following a long period of prior rainfall, when soil and wetland storage are saturated. In this regard, a distinction can be made between "hydrological" floods (high frequency, low to medium magnitude rainfall events that occur commonly without economic damage) and "economic" floods (low frequency large scale rainfall events following antecedent wet periods, potentially causing economic damage). Wetlands by their nature will provide attenuation of runoff by the degree of that attenuation may be less for large scale rainfoall events in saturated conditions.

4.9 Restoration & Rehabilitation

There are numerous peatland restoration programmes and individual site projects currently in train. A number of measures to restore active raised bogs are ongoing, the focus of which is to reverse the effects of turf cutting and drying out. Specific restoration projects being carried out by the DAHG include work on Nature Reserves at Clara Bog, Killiconney Bog, Mongan Bog and Raheenmore Bog. A number of other raised bog sites are being restored, involving partnerships between State bodies, voluntary conservation groups (e.g. Irish Peatland Conservation Council) and local community groups.

Bord na Móna has rehabilitated 10,000 ha of industrial cutaway peatland to date, mostly over the last 20 years.

Within these rehabilitated areas natural colonisation coupled with targeted rehabilitation (drain-blocking; dam building) of former bare peat production areas results in a rich mosaic of semi-natural habitats including open water, poor fen, rich fen, scrub, grassland and heathland. This mosaic development is demonstrated on a large-scale at the Lough Boora Parklands in Co. Offaly. Re-instatement of active peatland habitats will not be possible on all cutaway bog areas. Peat-forming conditions are re-establishing at the former industrial blanket bog development at Bellacorick, Co. Mayo, which has been rehabilitated over the last 10 years.

As more areas come out of industrial peat production across the midlands, and as natural colonisation continues, biodiversity areas will also increase on the cutaway bogs. Up to 50% of the current active Bord na Móna production area requires pumped drainage (such as the bogs along the River Shannon and River Suck) and as production stops, these areas will revert naturally to wetlands with fringe woodland habitats; while gravity drained sites (such as the Meath, East Offaly and Kildare Bogs) will progress towards heathland, grassland and woodland habitat if no intervention is undertaken. All of these developments are being documented by the Bord na Móna ecological survey as outlined in Bord na Mona Biodiversity Action Plan 2010-2015. The cessation of pumping must be evaluated on a case by case basis given the potential impact on the surrounding landscape.

Through the Raised Bog SAC Management Plan, a programme of restoration will be undertaken, in partnership with landowners, on raised bog Special Areas of Conservation. This programme will involve the preparation and implementation of site specific restoration and management plans for the 53 SACs , with a view to restoring active raised bog within these sites.

NPS P 30 Coillte and Bord na Móna as the managers of significant tracts of peatlands on behalf of the Irish people will continue to show leadership in responsible management, rehabilitation and restoration of peatlands.

NPS A 27 A comprehensive programme of restoration of Raised bog SACs shall be undertaken through the implementation of the Raised Bog SAC Management Plan, in partnership with affected land-owners.

4.10 Public Awareness & Education

Three important international documents published dealing with the wise use of peatlands have made specific recommendations on education and training. These are the Joint International Mire Conservation Group and International Peat Society *Wise Use guidelines for Global Mires and Peatlands*, The International Peat Society *Responsible Peatland Management Strategy* and the Ramsar *Global Action Plan for Peatlands*.

These documents point to the need to develop and implement mainstream environmental education and training programmes focusing on peatlands. They stress

COILLTE AND THE EU LIFE PROGRAMME

10 years of restoration works on afforested peatlands in Ireland

INTRODUCTION

In the latter part of the 20th century bogs were looked upon as a resource to be utilised for utilitarian purposes with little or no consideration of their inherent value. The forestry programme of that period utilised many blanket and raised bog sites for afforestation programmes. With improved understanding around the value of boglands as important natural habitats Coillte began a programme of protecting some of the most important bogland habitats in its care. To reverse some of the impacts caused by the afforestation programmes Coillte has secured and managed 3 co-funded LIFE projects for the restoration of **1,967ha** of blanket bog and **1,207ha** of raised bog habitat, within SACs or NHAs, on 51 sites across the Coillte forest estate[28] since 2002.

The main element of this restoration work carried out at most of the project sites was the felling and removal of plantation conifer crops which were planted as part of the national afforestation programmes and the blocking of drains installed during the planting phase. The objective of this work was to raise (and maintain) water-levels thereby recreating the conditions which allow blanket / raised bog habitat regeneration to recommence. Changes in vegetation (looking for indicator species) and water levels were also monitored as part of the programme as a means of measuring success. "Volunteer" trees such as birch and pine are monitored on a regular basis and removed when required to avoid the re-colonisation of some of the restoring sites.

A SUCCESSFUL PROGRAMME

At sites where the conifer crop was relatively young and where the trees had not yet closed canopy sufficiently to eliminate the existing bog vegetation, the recovery of bog vegetation has been rapid and extensive, showing very positive results within a few years. On bogs where the trees were taller and more mature the rate of recovery has been slower primarily due to the loss of the native bog vegetation caused by the shading effects and longer periods of continuous drainage. However that said, the removal of trees and the blocking of drains has resulted in a marked increase in water-levels on most sites and the resultant vegetation restoration.

PROGRAMME DELIVERY

It is Coillte's view that restoration will have a positive effect beyond the actual restoration area, for example on adjoining intact bog that has been previously subject to "collateral" drainage effects. The programme has also resulted in greatly increased knowledge regarding the large-scale restoration of modified bog habitat in Ireland. Awareness around the value and beauty of bog habitats has also resulted from the strong public awareness component of each LIFE project which has resulted in a strong local engagement with bog restoration projects.

By the time Coillte finishes its current LIFE09 raised bog project in 2015, Coillte will have restored approximately **3,700ha** of priority habitats; a result that is unequalled in Ireland and one that is making an important contribution to the protection and enhancement of these important habitats, not only for Ireland but also for Europe.

28 Coillte has also secured and successfully managed a fourth LIFE project for the restoration of 550ha of priority woodland habitats. This project also included a rare bog woodland site.

that such programmes should involve not only imparting knowledge and information, but must seek to modify behaviour and develop lifestyles that are harmonious with the wise use of peatlands. This implies that they must be life long and aimed at all sectors of society - citizens, communities, business and industry.

At national level the Irish Peatland Conservation Plan 2020, prepared by the Irish Peatland Conservation Council makes a number of strategic recommendations for Government on environmental education.

RECOMMENDATIONS 32 TO 35 OF THE BOGLAND REPORT ARE DETAILED BELOW:

32 Peatland awareness programmes and education material should be developed and promoted through a wide variety of media – information sharing (TV programmes, website, DVDs, etc.), education packs (financial support to the Irish Peatland Conservation Council education programme), workshops, posters in public places. Clear "peatland messages" should be provided for use across a wide range of media.

33 It is critical that a national institution take a lead in communicating information regarding peatlands. With the removal of governmental support for communication of environmental information (ENFO), it is critical that NGOs fill this gap and communicate this knowledge and that the Government adequately supports this task. In particular, awareness and education could be easily promoted by the improvement of public access at certain peatland sites (collaboration with Coillte, LIFE project)

34 With the complex discussion surrounding turf cutting, governmental institutions should communicate early and extensively to the stakeholders so that they become familiarised with the benefits of peatlands other than for fuel.

35 Traditional, indigenous knowledge of peat and peatlands, as well as relevant scientific findings and data, should be clearly communicated and made available to the public and to decision makers. This would also help dialogue between all the stakeholders, who may not be sufficiently aware of the information and views held by others. Information from all sources is crucial if more effective ecosystem management strategies are to be introduced. This could be harnessed through the National Peatland Park.

The Environment and Heritage Service of Northern Ireland has already made its commitment to peatland education in a document entitled "Conserving Peatland in Northern Ireland - A Statement of Policy". Within the policy are seven specific actions on peatland education including the provision of awareness and education facilities at Peatlands Park, outreach materials and visits to schools. Provision is also made for business, agriculture and industry education within the policy where this is seen to impact on peatland conservation and wise use (EHS 1993).

NGOs have undertaken initiatives in this area, principally the Irish Peatland Conservation Council education programme, but also An Taisce's "Nature's Way" series and the Irish Wildlife Trust Wetlands Campaign. Coillte and Bord na Móna are also active through their visitor facilities as is the NPWS of DAHG through their network of National Park Education Centres.

Also the continued publication of the results of survey and excavation work which has been carried out over the last 20 years is a priority in enhancing public access and knowledge.

With the complex discussion surrounding turf cutting, the importance of effective communication with stakeholders is clear. Traditional, indigenous knowledge of peat and peatlands, as well as relevant scientific findings and data, should be clearly communicated and made available to the public and to decision makers. The Peatlands Council will continue to be a forum where dialogue between stakeholders will be promoted.

Local communities have a very important role as stewards of peatland resources and should be involved in activities to restore and sustain their use. Local committees and other representative groups should be consulted in order to balance local concerns with the wider public 'good'.

PUBLIC AWARENESS & EDUCATION – ACTION

NPS A 28 Relevant public authorities will review their activities and approaches in regard to education and public awareness of the value and uses of peatlands and will outline the outcome of their review to the Peatlands Strategy Implementation Group[29]. The Peatlands Group, in consultation with the Peatlands Council will assess current activities, including those of NGOs, and make recommendations to Government regarding further measures that may be required to inform the public of the economic, social and environmental benefits of responsible peatlands management. The recommendations of the Bogland Report will be considered by the Peatlands Group in this context.

29 See Chapter 5. Murphy, G., Collier, M. & Feehan, J. 2008. Opinions of upland walkers on socio-cultural and environmental impacts on blanket bog habitats: cultural aspects of peat and peatlands. In: Feehan, J. (Ed.), 13th International Peat Congress. International Peat Society, Tullamore, Ireland, pp. 549-551.

PEATLANDS EDUCATION PROGRAMME

Irish Peatland Conservation Council (IPCC)

The scale and variety of peatland habitats and landscapes and their links to the country's history, culture and economy offer a tremendous educational resource for the teacher keen to undertake active, experiential education in, and about the peatland environment.

IPCC's educational role has been both formal and informal. Providing support, training and resources to schools is part of our formal commitment. Delivering life long education programmes and interpreting peatlands for visitors are elements in our informal work.

SCHOOLS EDUCATION

Peatland education is not just about gathering data and survey work on a school trip, it involves the development of attitudes, values, skills, creative and spiritual responses which are applied in all areas of a child's life. This philosophy underpins IPCC's work in education and is the basis for over 30 years of our research and development work in this area. Our goal is to turn peatlands into a teaching tool delivering aspects of the school curriculum and at the same time raising awareness and understanding of the natural and cultural heritage of our peatlands, their importance in our economy and the need for their conservation and wise use. Working proactively with teachers IPCC have developed a whole series of curriculum linked resources – packs, documentary and visual materials, on-line resources, activities and ideas, all of which promote IPCC's peatland education objectives. Significant support was received for our work from the Department of Education and Science, the World Wide Fund for Nature the Netherlands, Bord na Móna and the Heritage Council.

IPCC's pioneering work in the creation of resources led to the publication of the Peatland Education Pack in 1992. This interdisciplinary resource aimed at 11-15 year old students is divided into six modules spanning science, history, geography, art, craft and design, English and Gaeilge, reflecting the breadth of subjects which peatland study can offer.

Training for teachers in the use of the resources is necessary. IPCC run training courses in liaison with education and visitor centres around the country. A typical day long course – entitled 'Wake up to Bogs' – includes a first-hand experience of a peatland on a field trip.

The production of formal peatland education resources by the IPCC was recognised by the Department of Education and Science in Ireland. During a national curriculum review in the 1990's it was decided that all aspects of peatlands should be included for school students to study. The success of the Peatland Education Pack and Training programme led IPCC to develop many more resources for use by schools including the Cutover and Cutaway Bogs Education Pack (2000), Peatlands in the Primary School Curriculum (1994) and A Day on the Bog Field Studies Guide (1998). IPCC's work to date has also inspired the production of education materials in the United Kingdom, France, Slovakia and Canada.

LIFE LONG LEARNING

Peatland education is a life long commitment and needs to be provided for the entire community to engage people outside the formal education system. A diversity of approaches are being used IPCC to help develop lifestyles that are harmonious with peatland wise use. These include Travelling Exhibitions, walks and talks, workshops, peatland tourism passport, volunteerism and social media. The IPCC's website, among others at www.ipcc.ie is the centrepiece of our education programmes facilitating networking and dissemination of information within Ireland and throughout the world.

4.11 Tourism & Recreational Use

Peatlands provide space for recreation and tourism. In past years, the number of tourists interested in outdoor activities and eco-tourism has increased and this has both positive and negative impacts for peatlands in Ireland. As a result of additional tourism & recreational use, peatlands are likely to be viewed as more valuable local assets to communities, however this can also lead to pressure on the peatlands unless appropriately managed. The inappropriate recreational use of off-road vehicles, quad bikes and scramblers can cause damage to peatland habitats but suitable areas may be identified for their use.

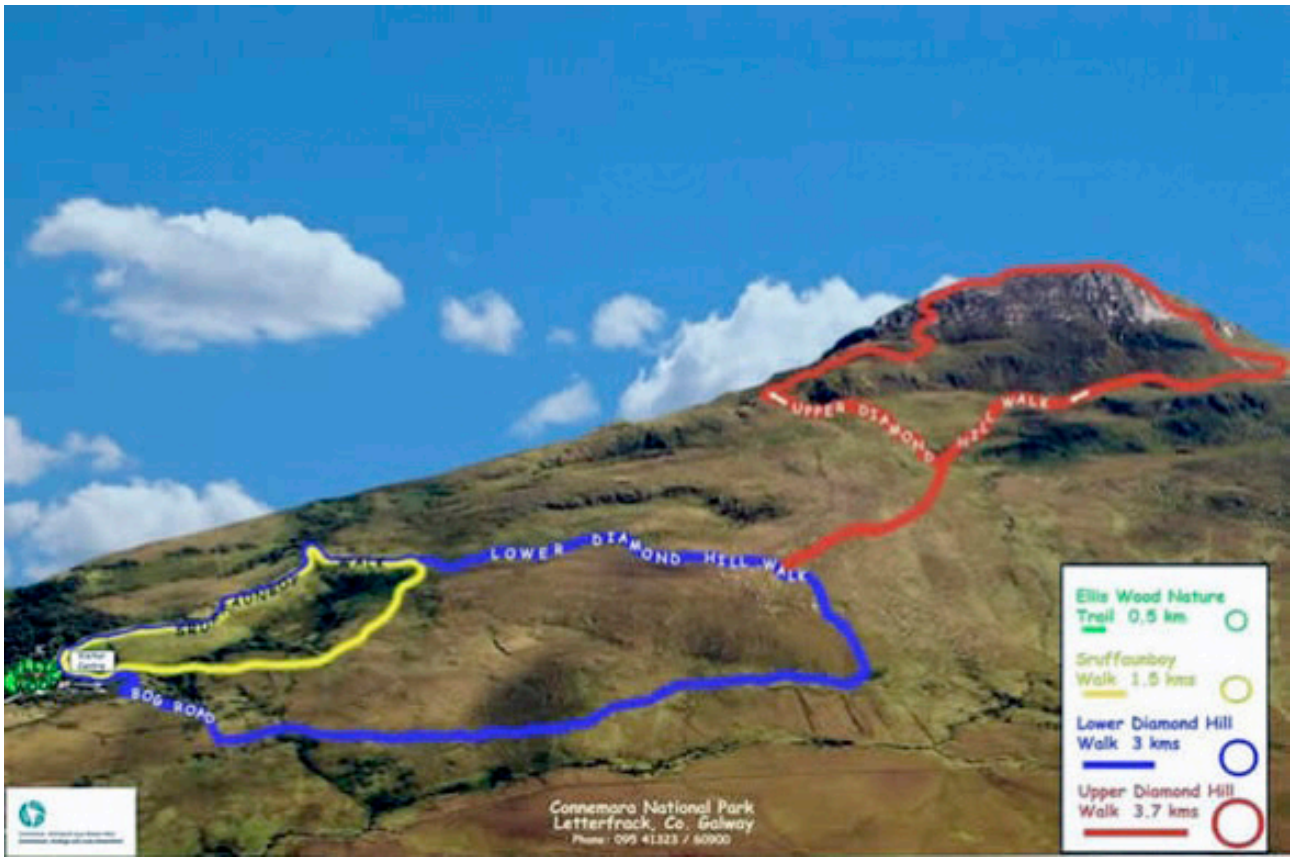
An Irish survey showed that upland walkers do not have high levels of ecological knowledge of blanket bog habitats.[1] However, the study showed that most walkers were willing to contribute financially to, and to volunteer time for, blanket bog conservation. Communication efforts, as well as appropriate development (such as board walks), could help counteract negative impacts from these activities.

Corlea Visitors Centre at Keenagh County Longford which is managed by the OPW, houses the conserved remains of an internationally important Iron Age tóchar or roadway and provides for the preservation *in situ* of a length of the tóchar in high bog.

The Céide Visitors Centre at Céide, North Mayo which is managed by the OPW presents to the public the buried Neolithic landsape of international importance and provides information on the development of blanket peats.

In certain communities, bog roads around raised bogs are used by the local community for walking, as they have little traffic, are tranquil places and are often looped routes. In Carrownagappul raised bog SAC in County Galway, this value has been identified by the local community and initial improvement works to the roads have been undertaken with financial assistance from the Department of Arts, Heritage and the Gaeltacht. Further funding will be sought as part of the longer term management of this and other bog SACs in the delivery of the National Raised Bog SAC Management Plan to help enhance the local community's use and enjoyment of these sites.

Figure 1: An example of walking trails from Connemara National Park



PEATLANDS PARK

Recommendation 9 of the BOGLAND Report is as follows:

"The creation of a National Peatland Park, pushed forward by local communities, deserves serious consideration and commands a degree of support from the Government. This proposed park could provide an opportunity to develop a centre of excellence for applied integrated peatland research and a national database for peatland-related data and information as well as communicating information regarding peatlands."

NPS A 29 The Peatlands Strategy Implementation Group (See Chapter 5) will be tasked with considering this recommendation. A starting point for such consideration will be an examination of existing and potential visitor facilities in the ownership of public, semi-State and voluntary bodies.

TOURISM AND RECREATION – ACTIONS

NPS A 30 The enhancement of peatlands as sustainable tourism and recreation amenities, which have the potential to return a community dividend, will be considered as part of the National Raised Bog SAC Management Plan.

NPS A 31 The consideration of peatlands as an amenity will form a central part of Ireland's application under the LIFE programme.

4.12 Unauthorised Dumping

The nature of peatlands means that they are often situated in sparsely populated and isolated areas. Access roads constructed on peatlands for turf cutting and wind farms have opened up peatlands and provided easy access for illegal dumping. The dumping of domestic and industrial waste on peatlands is indicative of a popular attitude that peatlands are wastelands of little value other than as dumping sites or sources of fuel. Local authorities and the EPA have a central role in combatting unauthorised dumping under the waste legislation. Bord na Móna, Coillte, DAHG and other landowners will continue to take action against those who engage in illegal dumping.

Fens are often looked upon as suitable locations for the dumping of landfill because of their low-lying nature and the fact that they are unsuitable for most types of development. The objective is often to raise the level of the fen in order to improve drainage and make a site more suitable for subsequent development such as housing. The Monaghan Fen Survey found that of the 42 sites surveyed in detail 20 were found to be affected by dumping and infilling (Foss and Crushell, 2007).

NPS A 32 The National Raised Bog SAC Management Plan will include provisions to combat unauthorised dumping on these sites.

4.13 Research

There is a need to identify and review practical peatlands research. This should include a review of restoration projects and techniques, and an assessment of their effectiveness in terms of hydrology, biodiversity, carbon storage, sequestration potential and preservation of the archaeological heritage.

Areas of research that will be pursued, most of which were identified in the BOGLAND Protocol Document, include:

- Investigation of the Greenhouse Gas emissions from peat soils under various management practices (to be used towards Tier 3 reporting of the Kyoto Protocol);
- Identification and review of practical peatland restoration projects and techniques to assess their effectiveness in terms of hydrology, carbon storage and sequestration potential and biodiversity at all levels;
- Quantification of the actual extent of domestic peat cutting, especially on blanket bogs;
- Classification, identification and mapping of all of the State's peatlands, including wet heaths, along a degradation scale;
- Research and development into alternative material to replace peat in horticultural and other products;
- Investigation of the cultivation of Sphagnum moss and more generally paludiculture on degraded peatlands;
- Research into the use and calculation of the economic value of ecosystem services; and
- Research to address the lack of baseline data on fens.

RESEARCH – ACTION

NPS A 33 These areas of research will be assessed and a priority ranking assigned to each topic, along with indicative costs, duration and the exact scope of the research required, with a view to implementing a programme of research projects.

PART 3

5 IMPLEMENTATION STRUCTURE

The National Peatlands Strategy sets out a vision, values and principles for the long-term sustainable management of Ireland's peatlands resources.

The following policy areas, sectors and interests will be involved in ensuring the sustainable use of peatlands:

- Nature Conservation
- Climate change
- Air Quality
- Peat extraction
- Energy
- Forestry
- Agriculture
- Water
- Education
- Tourism and recreation
- Planning and development
- Management of publicly owned peatlands

It is proposed that the relevant Government departments, agencies and semi State bodies responsible for policy development and implementation for these sectors will consider how their existing policies plans and programmes will contribute to the achievement of the objectives of the Peatlands Strategy and, as appropriate, revise their plans or policies to meet these objectives. In doing so they will need to liaise to ensure that the outcome will be a coherent set of plans and policies across all of these sectors.

To assist in achieving this, a **Peatlands Strategy Implementation Group** will be established under the chairmanship of the chair of the Peatlands Council. The relevant Government Departments, agencies and semi-state bodies will appoint representatives to the Group. The Group will assume a co-ordinating and reporting role to Government on the achievement of the objectives of the National Peatlands Strategy.

The Group's initial task will be to facilitate and support a consistent approach to the incorporation of the Strategy's values and principles into sectoral policies and plans. This will be undertaken, in the first instance, by each relevant Government Department, agency and semi-State body undertaking an assessment of its policies and plans and producing an outline of how and when it will bring about any necessary adjustments to these to meet the Strategy's objectives. Departments, agencies and Semi-State bodies shall also report on how and when the actions relevant to them and outlined in the Strategy will be completed.

This work will be undertaken within six months of the publication of the final Strategy and will form the basis of the Group's initial progress report to Government.

In compiling this report, the Group will identify and consider cross-cutting issues where several Departments, agencies and semi-State bodies share responsibilities or functions, or where the actions of one can impact upon the ability of another to meet the objectives of the Strategy. The Group will consider how it can facilitate the coordination of actions and policies in such situations.

Included in the initial report, the Chair, with input from each of the Government Departments, agencies and semi-State bodies represented, will detail the progress made and the steps to be taken in the following year. The report will also identify any difficulties or new issues or challenges that emerged in the process, and the steps being taken to address them.

The Group will make subsequent annual reports to Government outlining progress in meeting the Strategy's objectives, on any impediments to progress and on steps to be taken by each of the represented Departments, agencies and semi-State bodies in the following year. It may also make recommendations to Government where it considers certain actions are required to meet the objectives of the Strategy.

The Group may seek the advice of third parties such as academics, representative groups or experts to assist it in its deliberations. The Chair of the Peatlands Council may also, at his or her discretion, convene joint sessions of the Group and the Peatlands Council to facilitate communication and information exchange.

APPENDIX

I GLOSSARY [30]

Active or peat forming

According to the Interpretation Manual of the Habitats Directive, the term Active must be taken to mean still supporting a significant area of vegetation that is normally peat forming.

Afforestation

Under S.I.558 of 2010 (which provides a statutory approval system for afforestation), afforestation is defined as the conversion of land to a forest. A forest defined as land under trees with: a minimum area of 0.1 hectare; and tree crown cover of more than 20% of the total area, or the potential to achieve this cover at maturity.

Air Quality

Air quality is a measure of how polluted the air is. A range of air pollutants is emitted when turf is used for domestic fuel, including fine particulate matter which can penetrate deep into the lungs and airways with direct impacts on human health, Ireland has international obligations under EU legislation and the UN Convention on Long Range Transboundary Air Pollution to limit emissions of air pollution.

Biodiversity

Refers to the diversity of all living things at genetic, species and ecosystem levels.

Blanket bog

A bog type (see bog) that covers the underlying undulating landscape like a blanket.

Bog

Peatland only fed by precipitation and consequently generally nutrient poor and acid.

Catchment/Catchment area

1 An area from which surface run-off is carried away by a single drainage system.

2 The area of land bounded by watersheds draining into a river, basin or reservoir.

Climate

Weather averaged over a long period of time in a location.

Climate change (anthropogenic)

A change of climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is, in addition to natural climate variability, observed over comparable time periods.

Community (in vegetation studies)

A well-defined assemblage of plants and/or animals, clearly distinguishable from other such assemblages.

30 Glossary from BOGLAND – Correct Reference Required

Conservation status

The sum of the influences acting on a habitat and its typical species that may affect its long-term distribution, structure and functions. Also refers to the long-term survival of its typical species within the European territory of the Member States. Methods for assessing conservation status were drawn up by the European Topic Centre for Nature Conservation in conjunction with the Scientific Group of the Habitats Directive. It involves the application of 'good', 'poor' or 'bad' to four parameters for habitats and species (NPWS, 2008)[31].

Cutaway peatland (industrial)

A peatland where peat is being/has been extracted by industrial means. Peat extraction is the term used in this report to refer to peat production, peat mining or peat harvesting.

(Peat production is the term widely used in Ireland within the industry and is defined as the overall management or the processes and methods used to produce peat for commercial operations).

Cutover peatland

A peatland where peat is being/has been removed through turf cutting by hand or small-scale mechanical peat extraction. Cutover areas are usually made of a mosaic of cut areas, face banks, pools, drainage ditches, uncut areas, scrubs, grassland.

Dam

A barrier constructed to obstruct the flow of water.

Dissolved organic carbon (DOC)

Organic carbon remaining in solution after filtering the sample.

Disturbance

A discrete event, either natural or human induced, that causes a change in the existing condition of an ecological system.

Ecosystem

Refers to the combined physical and biological components of an environment. An ecosystem is a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.

Ecosystem services

Fundamental life-support services upon which human civilisation depends. Examples of direct ecosystem services are pollination, provision of wood, and erosion prevention. Indirect services could be considered climate moderation, nutrient cycling, and detoxifying natural substances. The services and goods an ecosystem provides are often undervalued as many of them are without market value.

Favourable conservation status

The conservation status of a natural habitat will be taken as favourable when its natural range and the areas it covers within that range are stable or increasing, and the specific structure and functions that are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and the conservation status of its typical species is favourable.

Fen

Peatland that in addition to precipitation also receives water that has been in contact with mineral soil or bedrock.

Floodplain

Land adjacent to a stream or river that experiences flooding during periods of high discharge.

Flushes

Wet areas maintained by the seepage of water down slopes of various gradient, usually very localised where nutrient enrichment occurs. Butterworts are particularly noticeable in flushes.

Habitat

The environment in which an animal or plant lives, generally defined in terms of vegetation and physical features.

Habitats Directive (Council Directive 92/43/EEC)

The Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna. This Directive seeks to legally protect wildlife and its habitats. It was transposed into Irish Law in 1997 and is currently being revised.

High bog

Area of a raised bog which forms/formed the dome.

31 BOGLAND – Correct Reference Required

Hummock

A small raised mound formed by the upward growth of Sphagnum moss.

Local people

Any individuals or groups of people in an area who are affected directly or indirectly by peatland management decisions.

Migration

A cyclic movement of animals between separated areas that are used during different seasons.

Mire

Peatlands on which peat is currently forming and accumulating.

Mitigation

Technological change and substitution that reduce resource inputs and emissions per unit of output. Although several social, economic and technological policies would produce an emission reduction, with respect to climate change, mitigation means implementing policies to reduce greenhouse gas emissions and enhance sinks (IPCC, 2007).

Mosaic (habitat mosaic)

Spatial configuration of habitats within a landscape, generally formed by patches arranged within a matrix.

Moss (peat moss)

Synonymous with a Sphagnum-dominated peat type.

NHA (Natural Heritage Area)

Basic designation under the Wildlife Amendment Bill 1999 for areas that are important for wildlife conservation.

NPWS (National Parks and Wildlife Service)

Division of the Department of Arts, Heritage and the Gaeltacht with responsibility for nature conservation and implementation of the Government's conservation policy.

Paludiculture

Paludiculture or 'wet cultivation' is the cultivation of biomass on wet and re-wetted peatlands (agriculture and forestry under wet conditions).

Peat

Sedentarily accumulated material consisting of at least 30% (dry mass) of dead organic material.

Peatland

A geographical area (with or without vegetation) where peat soil occurs naturally. For mapping purposes, a peatland should cover a minimum spatial extent of 1 ha.

Active peatlands or mires:

Peatlands on which peat is currently forming and accumulating. All active peatlands (mires) are peatlands but peatlands that are no longer accumulating peat would no longer be considered mires.

Intact, pristine and virgin peatlands:

The terms 'virgin', 'pristine' and 'intact' have been used in several studies in relation to sites that look unmodified, uncut (as visible to the eye) and where no obvious factor is currently degrading the peatland. These terms are best avoided for use of habitat description such as peatlands in an Irish context. Most Irish peatlands are 'humanised' landscapes that have evolved, indeed sometimes originated, in close association with land-use systems. It would be impossible to find an Irish peatland that has never been grazed or used in some way by humans (e.g. burning).

Near-intact peatlands:

In this report, the terms 'near-intact' and 'natural' peatlands are interchangeable and are used to refer to peatlands that are hydrologically and ecologically intact, i.e. in which the eco-hydrology, in the recent past, has not been visibly affected by human activity and therefore includes active or peat-forming areas or is in the process of regenerating such a habitat. A natural peatland thus requires a combination of components to be present in order to carry out all the functions and ecosystem services usually attributed to such ecosystems.

Peat soil

Soil that contains peat over a depth of at least 45 cm on undrained land and 30 cm on drained land; the depth requirement does not apply in the event that the peat layer is directly over bedrock.

Preservation

Maintenance and enhancement of specific biological, social or cultural values.

Priority habitat

A subset of the habitats listed in Annex I of the EU Habitats Directive. These are habitats that are in danger of disappearance and whose natural range mainly falls within the territory of the European Union. These habitats are of the highest conservation status and require measures to ensure that their favourable conservation status is maintained.

Protected area

An area of land and/or an aquatic ecosystem especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, managed through legal or other effective means. In this report, the term 'protected areas' includes all Natura 2000 sites (SACs and SPAs) as well as all the NHAs.

Raised bog

A bog shaped like a dome or elevated above the surrounding land and which only receives moisture from the atmosphere.

Regenerated peatland

Degraded peatland where spontaneous development has led to the regeneration of peat-forming conditions.

Rehabilitated peatland

See Restored peatland.

REPS (Rural Environment Protection Scheme)

This is an agri-environmental programme that each EU Member State is legally required to carry out and which seeks to draw up agreements with farmers, according to the type of farming, landscape and features on the land.

Resilience

A tendency to maintain integrity when subject to disturbance.

Resistance (connectivity context)

The inverse of permeability.

Responsible peatland management

Responsible peatland management is the balanced stewardship of the environmental, social and economic values of peatlands in accordance with local, regional and global aspirations.

Restoration

The process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed.

Restored peatland

Formerly drained peatland where human activities have led or are expected to lead to a recovery of its natural functions and values.

Rewetting

The deliberate action of changing a drained soils into as wet soil by for example blocking drainage ditches, disabling pumping facilities.

SAC (Special Area of Conservation)

An area that has been selected from the prime example of wildlife conservation areas in Ireland (legally required by the Habitats Directive). A cSAC is a candidate special area of conservation.

Site

A peatland area usually well defined by its boundary that has been chosen for study within this project.

SPA (Special Protected Area)

An area that has been designated to ensure the conservation of certain categories of birds (legally required by the European Birds Directive).

Stakeholders

All persons and organisations having a direct interest.

Sustainability

Although the concept of sustainability has been around for a long time, it became more widely used in the 1980s. In 1983, the Secretary-General of the UN established a commission called the World Commission on the Environment and Development (frequently referred to as the Brundtland Commission), which was asked to look at the world's environmental problems and propose a global agenda for addressing them. As a result, the Brundtland Commission defined sustainable development as development that meets the needs of the present without compromising the ability of future generations. The Food and Agriculture Organisation of the United Nations (FAO, 1991)[v] provides a definition of sustainable agriculture as: "a system which involves the management and conservation of the natural resource base, and the orientation of technical and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. Such sustainable development conserves land, water, plant and animal genetic resources and it is economically viable and socially acceptable".

Turbary

Term used to describe the right to cut turf on a particular area of bog. These rights came about with the resettlement of confiscated land or by prescription. Prescription is a legal term meaning that if a person is able to demonstrate that he/she has cut turf without secrecy, without permission and without force continuously for a period of 30 years he/she has a turbary right. This implies that not all turbary rights are formally registered.

32 BOGLAND – Renou-Wilson, F., T. Bolger, C. Bullock, F. Convery, J. P. Curry, S. Ward, D. Wilson, and C. Müller. Bogland - Sustainable Management of Peatlands in Ireland. Johnstown Castle, Co. Wexford: STRIVE Report No 75 prepared for the Environmental Protection Agency (EPA), 2011.

II SUMMARY OF SUBMISSION

Summary of submission from the first public consultation November 2011 – January 2012

The first phase of public consultation on the draft National Peatlands Strategy took place between November 2011 – January 2012. Advertisements were placed in national and regional media. 700 responses were received.

Of these 700 it was decided to summarise 44 as they covered the range of views and opinions that had been expressed by both private individuals and by companies and organisations.

545 of the responses received were of a campaign/ petition nature, that is to say that several copies of the same document were received – a breakdown of these is below.

111 further individual submissions were received which have not been summarised below. It is important to note that this does not mean that the views expressed in these submissions have been disregarded, but that they are also reflected in the 44 summarised submissions.

Breakdown of campaign/petitions received

Nure Bog Committee Petition – 77 copies received.

Nure Bog – Letter from Turf Cutters – 8 copies received.

United Midland Turf Committee – 53 copies received.

Retention of turf bank petition – 273 copies received.

Ballagh Bog Turf Cutters – 53 copies received.

TCCA submission – 81 copies received.

PSS002 SUBMISSION FROM PRIVATE INDIVIDUAL

- Proposes the aerial fertilisation of bogs, using methods developed in New Zealand.
- Fertilisation would lead to an increased *"low cellulosic, lower animal and plant population of "slime" – esp single cell amoeba paramecium, flagellates etc…"*
- The proposal recommends that this moss could be periodically skimmed off and transferred to local distilleries where it can be dehydrated, eventually resulting in a fuel mix that can be used in engines.

PSS004 SUBMISSION FROM PRIVATE INDIVIDUAL

- His house is built on the floodplain of one of the raised bogs in Kildare. His insurance company has identified the area as a high risk area for flooding.
- He is concerned that restoration works will lead to the flooding of his house.
- Outlines that the compensation on offer is not sufficient to allow him to switch to an alternative fuel source.
- He is concerned that only domestic turf cutters are being targeted.

PSS008 SUBMISSION FROM PRIVATE INDIVIDUAL

- Highlights the huge degree of mistrust between cutters and the state and its approach to dealing with the bogs issue.
- Cutters cannot get flood insurance at present and believe raising the water level of Mouds bog by blocking the drains would have disastrous consequences on the surrounding households.
- Outlines that the compensation on offer is not sufficient to allow her to switch to an alternative fuel source.
- Believes turf cutters are not being listened to and are vilified by a biased media.
- Expresses hope that she and the turf cutters will be genuinely listened to as part of the Peatlands strategy as the sense of betrayal and disillusionment among them right now is phenomenal.

PSS011 SUBMISSION FROM PRIVATE INDIVIDUAL

- The 130 SAC's and NHA's must be fully protected from any cutting with immediate effect to comply fully with Ireland's commitments to the EU.
- There should be no redrawing of SAC/NHA boundaries to take account of any damage done or that plans to be done, and in addition to protect the wildlife that depend on bog margins (both natural and cutaway).
- Proposes that designated sites should be restored by drain blocking, sphagnum-growing and tree scrub removal where appropriate.
- Believes turf cutters must be properly compensated in the interests of fairness i.e financial. Suggest imaginative ways of dealing with this, such as employing effected persons as guides to show case the bogs, as scrub cutters, contractors carrying out drain blocking etc.
- Believes that unless action is taken, Ireland may lose tourist income, areas will suffer increased flood damage, water pollution will rise and biodiversity will be lost.

PSS013 SUBMISSION FROM PRIVATE INDIVIDUAL ON BEHALF OF THE NURE BOG COMMITTEE.

- Submission is on behalf of the Nure Bog committee and reaffirms it's appeal against the designation of management of the bog by the Peatlands Council of Ireland (sic).
- State that they are all guardians of the environment and eco friendly people who intend to leave the bog as it was before they started to cut.
- Highlights members dependency on turf as a source of fuel and the ever increasing dependency given the rising costs of alternative fuels and recession.
- The bog is of huge social and economic importance to local cutters and he stresses that if it is continually managed in a proper manner as it has been over the past four generations, it will still be there for generations to come.

PSS014 SUBMISSION FROM PRIVATE INDIVIDUAL

- States that from a scientific viewpoint, despite having a high proportion of bogland, Ireland is lagging behind countries such as Canada who have done a range of studies that Ireland has ignored.
- Successive Irish governments have not valued the immense natural resources of the Peatlands and despite best efforts of conservationists, damage is continuing to the bogs and they are drying out.
- More should be done to protect the bogs as a matter of urgency. Funds are being spent to promote walking in the countryside with tourists who come to visit natural sites and scenery including Blanket and Raised bogs.

PSS015 SUBMISSION FROM PRIVATE INDIVIDUAL

- Believe that if the strategy is to be truly a national plan for all out peatlands, then it needs to encompass other habitats such as upland and lowland blanket bogs or fens.
- States that the strategy must be an action based document which clearly sets out specific actions and targets, with dates by which they should be achieved and the bodies responsible for the implementation of the actions. i.e. NPWS.
- Impacts on blanket bog habitats need to be addressed such as turf cutting by hand or machine in the lowlands, and overgrazing and erosion in the uplands
- Clarification is needed for the public on the legal status of machine and hand cutting in SAC's and NHA's and undesignated areas.
- One of the main challenges facing the implementation of conservation legislation in Ireland is the lack of resources and personnel. The infrastructure must be put in place to implement and where necessary, enforce the strategy.

PSS017 TCCA

- TCCA prepared a detailed 33 page document for the previous government in July 2009 which they state was subsequently ignored because the government had predetermined the outcome.
- Believe that major decisions with regards to the Peatlands strategy have already taken place between the EU, Government, NPWS and environmentalists without adequate consideration or consultation with the people of the ground. Reference is made to Chairman of the Peatlands Council informing a TCCA member on 19-Nov-2011 that turf cutting contractors would have to be licensed to cut on NHA's in future. They highlight issues this raises.
- It is their belief that the latest request for submissions amounts to nothing more than an attempt to retrospectively lend a veneer of democratic legitimacy to what is essential a dishonest process. The TCCA will not lend it's credibility to this process and calls on the Government to start afresh.
- The TCCA seeks a full Independent Commission of Inquiry, headed by a High Court Judge to investigate the conduct and activities of the Government, NPWS and it's predecessor Duchas pertaining to Ireland's botched implementation of the EU Directive. It highlights matters that should be included.

PSS021 SUBMISSION FROM PRIVATE INDIVIDUAL

- Believes there is an issue of far greater concern that has been completely overlooked, and it concerns commercial moss peat harvesting. Bogs such as Shrubbywood are being excavated to the bed rock.
- He says that this commercial extraction of peat involves taking away all the sledge, heather, cotton and other seeds, plus a hugely important habitat for frogs was devastated.
- He questions the legality of this being allowed to happen under EU environmental protection rules. He says that the River Inny has been polluted at the Lough Derravarragh end as a result of these activities.
- Expresses a deep level of frustration by the apparent lack of investigation and monitoring relating to commercial peat cutting activities and would strongly urge that it be added as a matter of urgency to the National Peatlands Strategy.

PSS022 SUBMISSION FROM PRIVATE INDIVIDUAL

- She says that being refused the right to cut turf on her bank will have a detrimental effect on her livelihood and her personal finances and she would not be able to afford the high cost of oil.
- Her house is built on the fringes of Mouds bog. She states that any attempt to block the drains on the bog will directly affect her. The raised water table in the bog will mean her septic tank will overflow destroying water wells and causing hazardous pollution.
- She says that Newbridge is a designated blacked out area for flood insurance and therefore she can't get any. If the River Liffey overflows and the bog drains are blocked, the water will have no run off area and she will be flooded.
- Believes turf cutters way of life is facing extinction due to the policies of government. She suggests halting commercial extraction as they do more damage in ten years than the cutters would in one hundred.
- Turf cutting must be preserved as it is a way of life and tradition passed down through the generations. It is therefore of huge personal importance to her and her family and politicians need to take heed of that.

PSS024 SUBMISSION FROM PRIVATE INDIVIDUAL

- It is his opinion that bogs have a limited life span and at some stage the traditions and easily available fuel will become exhausted. He therefore suggests that an alternative management of the land should be adopted in order to put some monetary value on peatland habitats.
- He suggests planting short rotation bio-mass crops Salix vimiminalis. This crop provides excellent heat value and is easy to commercially harvest and manage.
- He states that we have the perfect climate, conditions and land space required as we are not densely populated.
- He believes this will provide an alternative source of fuel with turf cutters that would be plentiful and affordable.

PSS025 IRISH RURAL LINK

- Recommends that the Peatlands Council should examine the long term implications of the severing of families' connections with the bog lands and make recommendations which encourage initiatives that unify the community and surrounding bog land.

- That real initiatives based on the provision of domestic fuel arrangement be investigated with vigour, with particular emphasis on families affected by social and economic disadvantage. As well as alternative fuel options, it is essential that improvements that raise the standard of quality of housing in terms of heat retention should also be facilitated.
- That communities should be encouraged to assist in the provision of supports to families needing help.

PSS026 SUBMISSION FROM PRIVATE INDIVIDUAL

- She states that she and a colleague are currently working on an EPA funded project, investigating the effects of groundwater quantity and quality on groundwater dependent wetlands i.e. raised bogs, blanket bogs, flushes and fens.
- She welcomes the cessation of cutting on designated bogs and the broad review of peatland use and economic activity and urges in-depth consideration of EU Water Framework and Groundwater Directive legal requirements during this process.
- Recommend the completion of adjustments to the extent and boundaries of designated peatland sites prior to the relocation of turf cutters to undesignated sites.

PSS030 SUBMISSION FROM PRIVATE INDIVIDUAL

- Submission is a representation on behalf of turf cutters which sets out detailed viewpoints on areas such as background, facts, management and concerns in relation to Irish raised bogs.

PSS031 COSAIN – IRISH CARBON TRADING PLATFORM

- Believe that a "Baseline" should be established and registered in order to identify the condition of each bog in its current form. This baseline could be used to establish best conservation/rehabilitation/restoration actions that are needed in each different bog type.
- Suggest the use biodiversity credits in boglands as a measurable methodology on conservation and rehabilitation can be created and this can be audited to monitor progress throughout the year.
- Also suggest a register could be set up as well to log valid credits that are created through each different project. Through the sale of these credit funds can be obtained and reinvested back into each community or project or be used by way of compensation for private bog owners who have lost revenues due to being no longer able to work the bogs for income.
- Creation of this compliance market could be incorporated into Ireland's climate change bill, thus fulfilling part of our obligations on climate control.

PSS141 SUBMISSION FROM PRIVATE INDIVIDUAL

- Completely opposed to the designation of their bog as their livelihoods depend on it. It is the main source of heating in their home. Taking away their right to cut which had been handed down for generations would have devastating economic and social consequences for them.
- Believe the monetary compensation on offer is insufficient especially going into the future, as opposed to having your own bog to cut, which is priceless.

PSS148 SUBMISSION FROM PRIVATE INDIVIDUAL

- Strongly believe that a cultural change is required within the NPWS as part of moving forward and to be genuinely pro-active and listen to those concerned as opposed to its traditional attitude of superiority and legal threats.
- Current compensation scheme on offer is totally inadequate and does not reflect the true value of the bogs. Refers to EPA Strive report 2011.
- Do not agree with relocation as an interim measure, until all bogs are designated. They say they should all be designated now to deal with the issue once and for all.
- Believes each county should have an equal percentage of designated sites in the interests of equality and fairness.

PSS0167 SUBMISSION FROM PRIVATE INDIVIDUAL

- Letter stating his strong opposition to the proposed cessation of any turf cutting at Curraduff and Ballagh Bogs in North Tipperary.
- Cutters have been using these lands to extract turf for generations and are solely used for private use and not commercial.

PSS210 SUBMISSION FROM PRIVATE INDIVIDUAL

- Suggests that the peatlands strategy should take into account the value analysis and conflict resolution methodologies contained in the *Wise Use of Mires and Peatlands*. Also makes reference to the book *"Strategy for Responsible Peatland Management"*.

- It is his belief that it is not possible to develop a consensual strategy without a lengthy iterative process during which interested parties are given repeated opportunities to comment on successive drafts.
- He therefore refers to the *"Guidelines for the Practical Implementation of Wise Use"*. These guidelines have already been refined through earlier consultations.

PSS211 INTERNATIONAL PEAT SOCIETY (I.P.S)

- Have attached a copy of a document called "Strategy for Responsible Management" for the Council's information and consideration.
- The aims of the attached strategy are to promote best practice such as safeguarding environmental, social and economic function of Peatlands.
- Have also attached the contents of a conference programme that was held in Oct 2011 "Towards the development of a Peatland Strategy for Ireland" in which they invited experts from Germany and Finland. PowerPoint presentations available on request.

PSS212 BORD NA MONA

- They have attached a recently completed document *"Strategic Framework for the Future use of Peatlands"* which focuses on the industrial peatlands in Bord na Mona ownership, however the approach and principals can be applied more widely. Would like the panel to consider the contents of this document as part of their deliberations.
- Bord na Mona are available to discuss the document in further detail on request.

PSS388 COUNTRYSIDE ALLIANCE IRELAND

- Believe that local communities and their landowners are likely to be best guardians of a bog and believe a balance needs to struck between protecting the habitats and heritage whilst maintaining the livelihoods that depend on it.
- It is their opinion that it is appropriate to engage all relevant stakeholders and welcome this.
- Express some concerns that reclassification of more bogs as SAC's or NHA's may unnecessarily prohibit country sports or effect the red grouse initiative due to possible restrictions on the land that may come with designation.
- The needs of and ramifications on turf cutters need to be more fully addressed. They believe that the current offer of compensation is not feasible as is the option of relocation for all sites.
- Overall they strongly welcome the Department's initiative.

PSS391 SUBMISSION FROM PRIVATE INDIVIDUAL

- He states that his bog plot is his own private property and is his generational and indigenous right to use his property without the need for a licence.
- Questions why the small individual turf cutter is being targeted whilst nothing is said or done about Bord na Mona or ESB who have caused environmental annihilation in the midlands without any repercussions.
- Concludes by stating categorically his wish to be allowed to continue to cut with impunity on his own bog. Monetary compensation is of insufficient value to him.

PSS392 SUBMISSION FROM PRIVATE INDIVIDUAL

- It is his opinion that none of the measures stipulated in article 2,3 of the Habitats Directive 92/43/EEC have been dealt with in the past 10 years.
- He says the compensation on offer is completely inadequate and has heard little or nothing from Peatlands Council or Department on agreeing a way forward.
- Believes contractors will be the biggest loser in this debacle.

PSS394 THE KERRIES LTD.

- Basis of submission is that an objective of the National Peatlands Strategy should be to encourage the development of wind farms on all peatlands throughout the country, including blanket bogs, which are currently banned. This would allow the government to meet its renewable energy targets, if fully implemented, by 2020.

PSS396 IPCC

- A detailed submission which covers a variety of areas such as background, issues that need to be addressed in the peatland strategy and a peatland strategy for Ireland.
- Identifies a sustainable management strategy case study which took place in Wales and believe a similar project in Ireland would be of enormous value.
- Detailed tables included which list priority actions for an Irish Peatlands Strategy.

PSS398 THE HERITAGE COUNCIL

- Council suggests that a Vision for the future of Ireland's Peatlands be developed to provide the overarching framework for the development of the Strategy i.e could include a commitment to maintenance and management of the heritage value of the Peatlands.

- Strategy should be developed in a such a way as to compliment and support other Government strategies and action plans i.e. National Biodiversity Plan 2011 – 2016 and emerging National Landscape Strategy.
- Identifies a greater need to emphasize and communicate the archaeological and heritage value of certain bogs.
- Council recommends the development of a clear timeframe for the development and implementation stages of the strategy with associated targets and indicators so that progress can be monitored.

PSS399 SOUTH WEST REGIONAL AUTHORITY – SWRA

- Strongly supports the creation of a national level strategy which will help them manage their interlinked environment, society and resources more effectively.
- Believe that the Peatlands strategy and national landscape strategy could mutually benefit from information arising from the other.
- Believe that there is an opportunity to use the information arising from the landscape character assessment as a marketing tool to promote peatland landscapes as potential tourism sites .i.e. through Failte Ireland.
- Peatlands council should provide proposals on monitoring and development of bogs.

PSS400 SUBMISSION FROM PRIVATE INDIVIDUAL

- The compensation offered by the Government is not fair for the removal of their rights as guaranteed under the Irish Constitution and would not provide enough fuel for one home let alone two.
- Fear of flooding on their land.
- Outline that they are already having difficulty with procuring insurance for their home as a result of being in a floodplain.
- Feel that the compensation on offer is not fair.
- 5 year rule is unfair.

PSS401 IRISH WIND ENERGY ASSOCIATION

- Wind Farm development needs to be considered as part of the Strategy along with all of the other important elements of same.
- IWEA believes that through using appropriate methodologies for peat risk assessment, peatland areas can be suitable locations for wind farm developments.
- IWEA notes that industry has some concerns over the EPA publication "Boglands: Sustainable Management of Peatlands in Ireland".
- IWEA would like to request that it too also be offered a place on Council, as the largest national association for wind energy developments.
- Requests a meeting to discuss the Strategy in more detail.

PSS402 WESTMEATH ENVIRONMENTAL GROUP

- Outlines that new laws/regulations are required to manage industrial peat extraction and they cite two cases were it is alleged that the regulations do not effectively deal with large scale extraction.
- Comprehensive review of NHAs and an information board setup to provide the public with relevant information.
- Reasonable access to NHAs by the local community and community participation in management of the sites.

PSS403 OFFALY COUNTY COUNCIL

- There should be a coordinated strategy which balances conservation with after use and the development of this should not be on an ad hoc/piecemeal basis.
- There should be a development of a mapping system including layers for Natura sites, post peat layer (industrial peat locations) and the national landscape classification map. These layers would allow evidence based spatial planning.
- Develop tracks and trails within peatlands to promote them as amenity areas.
- Needs to be a balance of economic value of peatlands and conservation of same.
- Requests that Strategy takes cognisance of the importance of peatlands from an employment point of view in the midlands.
- Future uses of peatlands needs to be explored from a business and energy development point of view.

PSS405 ENVIRONMENTAL PROTECTION AGENCY

- Recommendations in Boglands should be taken into account in preparing the Strategy.
- The requirements of the SEA and Habitats Directive should be fully complied with, where relevant, in the context of the preparation of the National Peatlands Strategy and any specific Plans or Programmes which may arise in the implementation of the Strategy.

- The relevant Catchment Flood Risk Management Plans currently being prepared by the Office of Public Works in accordance with the Floods Directive and the relevant Programme of Measures set out in the relevant River Basin Management Plans should be taken into account in the development of the Strategy.
- The relevant commitments set out in the National Biodiversity Plan should be reflected in the Strategy.
- The implications of climate change on peatland ecosystems, the role peatlands have in carbon sequestration, peatlands as a source of Greenhouse Gas Emissions, peatlands role in flood risk management etc. should be taken into account in developing the Strategy and should be reflected in the commitments and recommendations emerging in the final Strategy.

PSS406 WESTMEATH COUNTY COUNCIL

- Strategy should include consideration of the importance of peatlands from an archaeological point of view.
- Localised peat land management plans to be formulated at local authority or regional level and incorporated into County Development Plans to assist with community participation in peatland management.
- Community engagement should target those communities which were founded as result of Bord na Mona peat harvesting activities in the midlands which commenced in the 1950s e.g. Rochfordbridge.
- The potential for the Carbon Accounting and wind generation potential to result in direct community benefits (as in direct ownership of the resources) needs to be explored.
- The land mass under peat offers potential for development of significant tourism and recreational resources including a national park for the Dublin Metropolitan Area within the midlands, together with publicly accessible parkland areas within proximity to larger towns such as Mullingar, Athlone and Kinnegad.
- The regulatory environment in regard to the control of peat harvesting activities and the minimisation of environmental impacts has been less than effective due to lack of clarity regarding established uses. This matter should be addressed within the National Strategy.
- It would be desirable that a survey of the nature, extent and condition of peatlands including fens should be undertaken in every Local Authority area to determine their conservation value, potential for restoration and their legal status.

PSS425 FRIENDS OF THE IRISH ENVIRONMENT

- The terms of references for any NHA review need to be set out.
- The EPA BOGLANDS Action Plans should be accepted unless valid reasons are provided for not doing so.
- Commission a review of the functionality of the legislative provision for the control of the use of peatlands to ensure integrated and effective administration of the legal responsibilities, including the Convention on Biodiversity, the Ramsar Convention, and the UNFCCC.
- Alternative energy packages should be offered on the basis of the ENGO recommendations.
- Any relocation must be accompanied by a planning application for the change of land use which must be screened for an appropriate assessment. Compensation should be calculated by a qualified body and should reflect full compensation for the true cost of replacement through loss of land use.
- Development/Management Plans should be completed for all peatland sites.
- The Peatlands Council should support the proposal for a National Peatlands Park as proposed in the EPA BOGLAND Report.

PSS428 BIRD WATCH IRELAND

- Outlines that there is an urgent need to cease turf cutting on all designated sites including blanket bogs and NHAs.
- Proposes the use of various structures for the restoration and management of peatlands including Life Projects, management plans and other Rural Development Measures.
- Proposes the adoption of the 39 Recommendations of the EPA's "Bogland" Report.
- Restoration of peatlands required in the management of carbon and the reduction of emissions.
- Strategy should develop a procedure for ensuring all mechanised peat extraction is in compliance with EIA Directive.
- Restoration of peat will assist in flood alleviation and the use of bogs could be explored in terms of a water quality system.
- Guidance for planning authorities and developers relating to spatial planning and site selection for wind energy developments is needed.

- The strategy should examine how to ensure appropriate levels of grazing on peatlands and how to rehabilitate peatland areas that that have been degraded through overgrazing.
- Recommend the development of a formal mechanism to facilitate the participation of stakeholders in the development and implementation of procedures and policies in the National Peatland Strategy to address these issues.

PSS429 NATIONAL MONUMENTS SERVICE

- Peatlands are extremely important from an archaeological point of view and the protection of archaeology should be part of the Peatlands Strategy as well.
- The need to develop and implement an effective strategy for the protection of the archaeological heritage in other peatlands.
- The need to develop and implement a strategy for the preservation in-situ in appropriate cases of peatland archaeological monuments.
- The need to further disseminate the results of archaeological research in peatlands and to increase public knowledge, appreciation and enjoyment.

PSS430 IFA

- NPWS should consider bog purchases again.
- 100% grant aid for move to alternative energy sources.
- Management plans for peatlands ensuring landowners are fully consulted and involved in the process and ensuring flooding and landslides are avoided.
- Increase compensation rates payable.

PSS432 COILLTE

- Strategic Purchasing of land for conservation.
- Proposed development of conservation easement for sale to NPWS or Local Authority – landowners maintain ownership but receive lump sum/annual payment for conservation works to be carried out on their land.
- Look to next Life Program for Funding for Restoration and explore potential for landowners to take ownership of restoration projects.
- Explore Development of Wilderness Park in the Midlands.
- Encourage and support community awareness and participation in managing peatlands.

PSS433 AN TAISCE

- The recommendations of EPA's "Bogland" should be endorsed by Peatlands Council and adopted by Government in its policy.
- Develop awareness and education program to promote understanding of peatlands.
- Comply with European and International obligations by effectively managing our peatlands.
- Carbon tax on peat burning, ensure protection of carbon sinks.
- Ensure single farm payments are linked to farm/land management in respect of peatlands.
- Develop National Wilderness Park on Bord na Mona Lands.
- Exit strategy for the use of peat in power generation and heating.
- Development of alternative sustainable energy options.

PSS434 MOUNTAINEERING IRELAND

- Main concern is blanket bog.
- Claims Ireland is the most important country in Europe for this habitat, claiming Ireland has 8% of the World's blanket bog habitat.
- Suggests upland Agri-Environment Scheme to be introduced to assist land management and sustainable management of near intact blanket bog.
- Continue and expand restoration work similar to the Coillte projects.
- In addition to extraction, the Strategy should consider other damaging activities including off road vehicle usage.
- A call to fully complete the designation process.
- Strategic visitor management in popular protected areas. Development of trails to ensure popular outdoor recreational activity does not interfere with protected.
- Strategy should look to develop recreational and tourism potential of peatlands.

PSS436 DENIS NAUGHTEN T.D.

- Proposing the development of a Wetlands Park in the North Midlands.
- Proposed location is Bord na Mona cutaway bogs at Mount Dillon.
- Claims that it would be national amenity area and assist in alleviating Shannon flooding for Athlone & Carrick-on-Shannon.
- Attaches UCD study on the matter.

III EU DIRECTIVES REFERRED TO IN THIS DOCUMENT

The following are explanatory notes on the EU Directives referred to in the text. Directives are sometimes portrayed as external impositions by "Brussels". In fact all of these Directives were agreed by the relevant Irish Minister at the time of adoption and were voted on by Irish members of the European Parliament.

HABITATS DIRECTIVE

The Habitats Directive (together with the Birds Directive) forms the cornerstone of Europe's nature conservation policy. It is built around two pillars: the Natura 2000 network of protected sites and a strict system of species protection. The directive protects over 1,000 animals and plant species and over 200 so called "habitat types" (e.g. special types of forests, meadows, wetlands, etc.), which are of European importance.

Natura 2000 is the centrepiece of EU nature & biodiversity policy. It is an EU wide network of nature protection areas established under the 1992 Habitats Directive. The aim of the network is to assure the long-term survival of Europe's most valuable and threatened species and habitats. It is comprised of Special Areas of Conservation (SAC) designated by Member States under the Habitats Directive, and also incorporates Special Protection Areas (SPAs) which they designate under the 1979 Birds Directive. Natura 2000 is not a system of strict nature reserves where all human activities are excluded. Whereas the network will certainly include nature reserves most of the land is likely to continue to be privately owned and the emphasis will be on ensuring that future management is sustainable, both ecologically and economically. The establishment of this network of protected areas also fulfils a Community obligation under the UN Convention on Biological Diversity.

BIRDS DIRECTIVE

The Birds Directive is the EU's oldest piece of nature legislation and one of the most important, creating a comprehensive scheme of protection for all wild bird species naturally occurring in the Union. It was adopted unanimously by the Members States in 1979 as a response to increasing concern about the declines in Europe's wild bird populations resulting from pollution, loss of habitats as well as unsustainable use. It was also in recognition that wild birds, many of which are migratory, are a shared heritage of the Member States and that their effective conservation required international co-operation.

The directive recognises that habitat loss and degradation are the most serious threats to the conservation of wild birds. It therefore places great emphasis on the protection of habitats for endangered as well as migratory species (listed in Annex I), especially through the establishment of a coherent network of Special Protection Areas (SPAs) comprising all the most suitable territories for these species. Since 1994 all SPAs form an integral part of the NATURA 2000 ecological network.

CLEANER AIR FOR EUROPE (CAFE) DIRECTIVE

The CAFE directive provides the main EU legislative provisions for the protection of human health from ambient air pollution, and the promotion of cleaner air in the EU. It sets out the general framework for the assessment and monitoring of priority air pollution and sets legally binding limits for the concentration of certain hazardous pollutants in ambient air including fine particulate matter. $PM_{2.5}$ which impacts on human health even at very low levels. In recognition of this, the directive requires reduction of $PM_{2.5}$ levels even at levels below the specified limits.

The National Emission Ceilings directive set overall national caps for a range of air pollutant from 2010. The directive is under revision to set tighter targets for 2020 and beyond including for fine particulate matter. Peat combustion is a disproportionate source of such emissions.

THE EUROPEAN COMMUNITIES (ENVIRONMENTAL LIABILITY) REGULATIONS 2008, AND PROTECTED RAISED BOG SACS

The European Communities (Environmental Liability) Regulations 2008 (ELR) transpose the EU Directive 2004/35/EC (ELD) on environmental liability with regard to the prevention and remedying of environmental damage and came into force in Ireland on the 1rst of April 2009. The purpose of these Regulations is to establish a framework of environmental liability based on the "polluter-pays" principle to prevent and remedy damage to the environment.

Its aim is to hold operators whose activities have caused environmental damage financially liable for remedying the damage. The EPA has been appointed to as the competent authority for the implementation of the ELD. The type of environmental damage which applies to bogs is "damage to protected species and natural habitats".[33]

Any works carried out on a protected site (Raised Bog SAC) giving rise to a deterioration from baseline, should be classed as significant as defined in Annex I of The European Communities (Environmental Liability) Regulations 2008.

The EPA is required to take certain actions under the Regulations when it becomes aware that an Environmental Damage event has occurred or there is an Imminent Threat of Environmental Damage as defined under the Regulations. The EPA has the power to take certain measures which includes the issuing of binding directions to operators to carry out certain actions including cessation and restoration. Failure to comply with any direction is an offence and an operator may be fined up to €500,000 or three years in prison.

WATER FRAMEWORK DIRECTIVE

This Directive provides for the protection of the quality of water in the EU. It provides for the general protection of the aquatic ecology, specific protection of unique and valuable habitats, protection of drinking water resources, and protection of bathing water. All these objectives must be integrated for each river basin. The last three - special habitats, drinking water areas and bathing water - apply only to specific bodies of water (those supporting special wetlands; those identified for drinking water abstraction; those generally used as bathing areas). In contrast, ecological protection should apply to all waters: the central requirement of the Treaty is that the environment be protected to a high level in its entirety.

FLOODS DIRECTIVE/ CFRAMS

Directive 2007/60/EC on the assessment and management of flood risks entered into force on 26 November 2007. This Directive requires Member States to assess if all water courses and coast lines are at risk from flooding, to map the flood extent and assets and humans at risk in these areas and to take adequate and coordinated measures to reduce this flood risk. This Directive also reinforces the rights of the public to access this information and to have a say in the planning process.

The national Catchment Flood Risk Assessment and Management (CFRAM) programme was developed to meet the requirements of the Floods Directive, as well as to deliver on core components of the 2004 National Flood Policy. The CFRAM Programme includes three main outputs:

- 2011 – Preliminary Flood Risk Assessment
- 2013 – Flood Risk and Hazard Mapping
- 2015 – Flood Risk Management Plans

The national CFRAM programme is being implemented through River Basin District (RBD) scale studies and the objectives of these studies are to:

- Identify and map existing and potential future flood hazard risk within the catchment;
- Identify viable structural and non-structural measures and options for managing the flood risk;
- Build a strategic information base necessary for making informed decisions in relation to managing flood risk;

33 "damage to protected species and natural habitats" means any damage that has significant adverse effects on reaching or maintaining the favourable conservation status of such habitats or species; the significance of such effects is to be assessed with reference to the baseline condition, taking account of the criteria set out in Schedule 1.

- Develop an environmentally, socially and economically appropriate long term strategy (Flood Risk Management Plan) to manage the flood risk and help ensure safety and sustainability of communities in the catchment; and
- Carry out a Strategic Environmental Assessment and Appropriate Assessment to ensure that environmental issues and opportunities for enhancement are considered.

The national CFRAM programme with its catchment approach will consider the viability of storage measures to reduce flood risk which will include in appropriate cases an analysis of the storage potential of cutaway bogs.

DIRECTIVE ON ENVIRONMENTAL ASSESSMENT

Environmental assessment is a procedure that ensures that the environmental implications of decisions are taken into account before the decisions are made. Environmental assessment can be undertaken for individual projects on the basis of the 'Environmental Impact Assessment' or for public plans or programmes on the basis of the Strategic Environmental Assessment Directive. The common principle of both Directives is to ensure that plans, programmes and projects likely to have significant effects on the environment are made subject to an environmental assessment, prior to their approval or authorisation. Consultation with the public is a key feature of environmental assessment procedures.

The Directives on Environmental Assessment aim to provide a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation of projects, plans and programmes with a view to reduce their environmental impact. The Directives on Environmental Assessment are crucial tools for sustainable development.

EUROPEAN COMMUNITIES (WATER POLICY) REGULATIONS 2003 – S.I. NO. 722 OF 2003

OUTLINE OF PRINCIPAL FUNCTIONS

The 2003 Regulations assign a general duty on every public authority to exercise their functions in a manner consistent with the provisions of the Directive. The public authorities are set out in a Schedule to the Regulations and are listed below.

DEPARTMENT OF THE ENVIRONMENT, COMMUNITY AND LOCAL GOVERNMENT

Specifically, the regulations oblige the Minister to "promote the coordinated implementation" of the Directive. The other functions assigned consist of:

- providing assistance, including financial assistance, to the relevant public authorities in relation to the discharge of their functions under the Regulations;
- issuing guidance and general policy directions in relation to the implementation of the Regulations.

LOCAL AUTHORITIES

The local authorities "acting jointly" are the designated competent authorities for the making of river basin management plans and their associated programmes of measures.

Within each river basin district, one local authority is designated as a coordinating authority, although this role is passive and is confined to being a point of contact.

The local authorities are assigned the following functions and duties by the regulations:

- analysing the characteristics of the river basin district;
- reviewing the impact of human activity on water quality;
- conducting an economic analysis of water use;
- reporting on the analyses and reviews to the EPA;
- ensuring compliance with Article 9 of the Directive (recovery of costs of water services and water-pricing policies);
- establishing environmental objectives, programmes of measures and river basin management plans;
- providing for information and public consultation on the plans;
- reporting to the EPA on progress with the implementation of the plans;
- establishing river basin district advisory councils.

EPA

The EPA is designated as a competent authority by the Regulations for the purpose of reporting to the European Commission and is given powers to take such measures as it considers appropriate to promote and facilitate the coordination of activities in pursuit of the objectives of the Directive.

Regulation 20 obliges the EPA to exercise its' powers under Section 63 of the EPA Act[34] in relation to any public authority (other than a Minister of the Government) to which a duty is assigned by a monitoring programme or by a programme of measures. The Agency is also charged with the following functions:

- designating and describing the river basin districts;
- mapping and classifying all water bodies;
- establishing a programme for the monitoring of water status;
- assigning monitoring duties to public authorities;
- establishing a register of protected areas;
- reporting to the Minister on river basin plans and programmes of measures;
- recommending water quality standards for priority substances;
- recommending criteria for the assessment of groundwaters.

RELEVANT PUBLIC AUTHORITIES

- the Environmental Protection Agency
- the relevant local authorities
- the regional authorities in the area
- the regional fisheries boards in the area
- the Geological Survey of Ireland
- Teagasc
- the Radiological Protection Institute of Ireland
- the Marine Institute
- the Central Fisheries Board
- the Electricity Supply Board
- Waterways Ireland
- Tourism Ireland
- the Heritage Council
- the Health and Safety Authority
- the Local Government Computer Services Board
- the Commissioners of Public Works
- the Minister for Enterprise, Trade and Employment
- the Minister for Communications, Energy and Natural Resources
- the Minister for Agriculture Food and the Marine

34 This is the Section that empowers the EPA to oversee the performance of local authorities in discharging their statutory functions and to issue directions. It also enables the Minister to make Regulations extending these powers to other public authorities in the area of environmental protection.

APPENDIX

IV CRITERIA FOR DESIGNATING PEATLANDS FOR PROTECTION

A. Criteria for identifying Special Areas of Conservation

SACs are chosen subject to criteria laid out in Annex III of the Habitats Directive. Broadly speaking, these are as follows:

1 The importance within Ireland of the site for its habitats or species;

2 How representative is the example of the relevant habitat present on the site (in practice, this means that a suite of sites is selected which encompasses the range of variation found);

3 How isolated is the population of the relevant species on the site (the more isolated the population, the more likely it is to be genetically different from other populations);

4 The intactness of the habitat on the site;

5 Other factors, including the need to ensure a good geographic spread of sites, the total number of habitats and species listed in the Annex to the Habitats Directive present on the site, whether or not there is a priority habitat on the site and whether or not the site contains habitats or species for which Ireland is especially important.

B. Criteria for Identification of Raised Bog Natural Heritage Areas

Important raised bog habitats were identified by confirming the presence of typical features such as pools, hummock/ hollow complexes and flushes (areas of water flow) and characteristic and indicator species. These are indicators of active peat formation. Using aerial photographs, the high bog areas and any visible features such as flushes and pools were mapped and measured. Drains, areas of burning and forestry on the high bog along with active peat cutting were also recorded. Land use and drainage in the cutover bog was recorded and the cutover assessed for regeneration potential. Any other features of interest such as eskers, turloughs, lakes or rivers were also noted.

The following criteria were used to select raised bogs of conservation importance.

1 Location/ peat archive.

2 Past ratings.

3 Active peat formation: hummock/ hollows, Spagnum spp.

4 High bog area (>60ha).

5 Integrity: % of high bog remaining.

6 Habitat diversity: pools, flushes, soaks, bog woodland and semi-natural margins.

7 Geomorphology (geohydrology): basin, ridge, floodplain.

8 Geology.

9 Climate/altitude.

10 Proximity to SACs, SPAs, & NHAs, especially other raised bog sites.

C. Criteria for Identification of Blanket Bog Natural Habitat Areas

The following criteria guided the selection of blanket bogs of conservation importance. In general these area listed in order of decreasing importance.

1 Representative assemblage of characteristic habitats and species.

2 Habitat diversity: pools, flushes, soaks and semi-natural margins.

3 Integrity/ naturalness.

4 Area of active bog within the site.

5 Bog type: lowland, highland or mountain.

6 Bog morphology: plateau, headwater, slope, saddle or intermediate blanket bog.

7 Geographical location.

8 Altitude range (min/max).

9 Catchment hydrology (watershed, headwaters).

10 Geology.

11 Presence of notable habitats and species.

12 Proximity to another valuable site (SAC, SPA or NHA).

13 Past ratings (Blanket bog surveys 1987-1991).

V NATIONAL RAISED BOG SAC MANAGEMENT PLAN - EXECUTIVE SUMMARY

What are the Aims of this Draft National Raised Bog SAC Management Plan?

THIS DRAFT PLAN HAS TWO BROAD AIMS:

Conservation and Management of Raised Bog SACs - Ireland has nominated 53 sites as Raised Bog SACs under the EU Habitats Directive and therefore is required under the directive to put in place measures to protect these sites from deterioration. The aim of the National Raised Bog SAC Management Plan is to provide clarity to all parties regarding how these sites will be managed and restored into the future in co-operation with land-owners and local communities and in keeping with legal obligations under the directive.

Addressing the needs of Turf-Cutters & Land-Owners - The Plan also aims to set out how the needs of those who depend on these bogs will be addressed where it has been necessary to curtail activities for conservation purposes. The needs of affected turf-cutters' are being, and will be, largely addressed through compensation or relocation. The concerns and interests of land-owners within and around these sites will also be addressed, through the putting in place of site-specific management and restoration plans for each raised bog SAC in consultation with them and in keeping with the requirements of the Plan. The site-specific plans can also be used to explore how the restoration and management of these sites can benefit local communities through their use as amenity areas, for education, and as a focus for conservation.

What are the main threats to the Raised Bogs?

Raised bogs are wetland ecosystems and so the main threats to their welfare arise from any actions that drain water from them and dry them out. The main threats include:

- Drainage of raised bog habitat or surrounding wetland habitats;
- Peat harvesting and turf cutting;
- Planting of commercial forestry;
- Spread of fires; and
- Other human activities such as water abstraction from groundwater and quarrying which can have a significant impact on the raised bogs by lowering the regional groundwater level.

All of these damaging operations can compromise the hydrological integrity of a raised bog leading to the lowering of the water table which can cause the bog to shrink, crack, deform, collapse or burst. Such actions can result in peat being exposed to air as the water levels drop and the dead plants in the peat start to decompose, releasing carbon dioxide and other gases into the atmosphere. These changes to the structure of the raised bog result in the loss of the unique raised bog ecology.

What is the current condition of the Raised Bogs?

The current condition of Ireland's Raised Bog Network was determined from scientific ecological and eco-hydrological assessments of Ireland's entire network of Raised Bog SACs, NHAs and other non-designated raised bogs of potential conservation value (Figure 1).

The most important raised bog habitat is Active Raised Bog which is defined as the living, actively growing upper layer of a raised bog, the surface of which is composed mainly of living bog mosses (Sphagnum spp.) which form peat, due to their incomplete decomposition under waterlogged conditions (Plate 1). Degraded Raised Bog is raised bog habitat which has dried but is still capable of natural regeneration following restoration.The ecological assessment used data mainly from previous NPWS ecological surveys and associated reports supplemented by selected site surveys to address data gaps in non-designated raised bogs.

The ecological condition of Raised Bogs is fundamentally dependent on the hydrology (namely the availability of water close to the surface of the bog). An eco-hydrological assessment was therefore undertaken to assist with understanding the Raised Bogs' current condition and, equally importantly, determining their restoration potential.

The methodology developed to undertake the eco-hydrological assessments makes use of detailed topographic data for each raised bog obtained from LiDAR surveys to assess the potential for the bog surface to support active raised bog. LiDAR is a remote sensing technology that measures vertical surface elevation by illuminating a target with a laser and analyzing the reflected light. The data is collected in the field using a low flying aeroplane. This gives much more detailed and accurate raised bog topographical maps than can be collected by traditional surveying techniques.

The use of the LiDAR data has supported a programme of scientific research which has greatly improved the knowledge of the eco-hydrological behaviour of raised bogs in Ireland. By using the detailed topographic survey data, it is now possible to model eco-hydrological conditions (based on the raised bog's slope, drainage patterns and rainfall) and relate these conditions to recent ecological surveys. In this way it is possible to determine the area of each bog that has suitable conditions for the development of active raised bog habitat, but are currently being impacted by a pressure that is preventing active raised bog growth in these areas. In short, the eco-hydrological modelling process can quantify each raised bog's restoration potential.

The investigations have identified an overall decline in Active Raised Bog and High Bog areas within the national Raised Bog network in Ireland (see Table 1). A significantly greater loss in the area of active raised bog has occurred relative to losses in High Bog. This is because the activities associated with the loss of High Bog, such as turf cutting and associated drainage, has caused significant changes to the hydrological regime resulting in a lowering of the water table and causing large areas of the High Bog to dry out for long periods of time. Consequently, there has been a loss of the water dependent ecosystems present on the High Bog, the most important habitat being active raised bog.

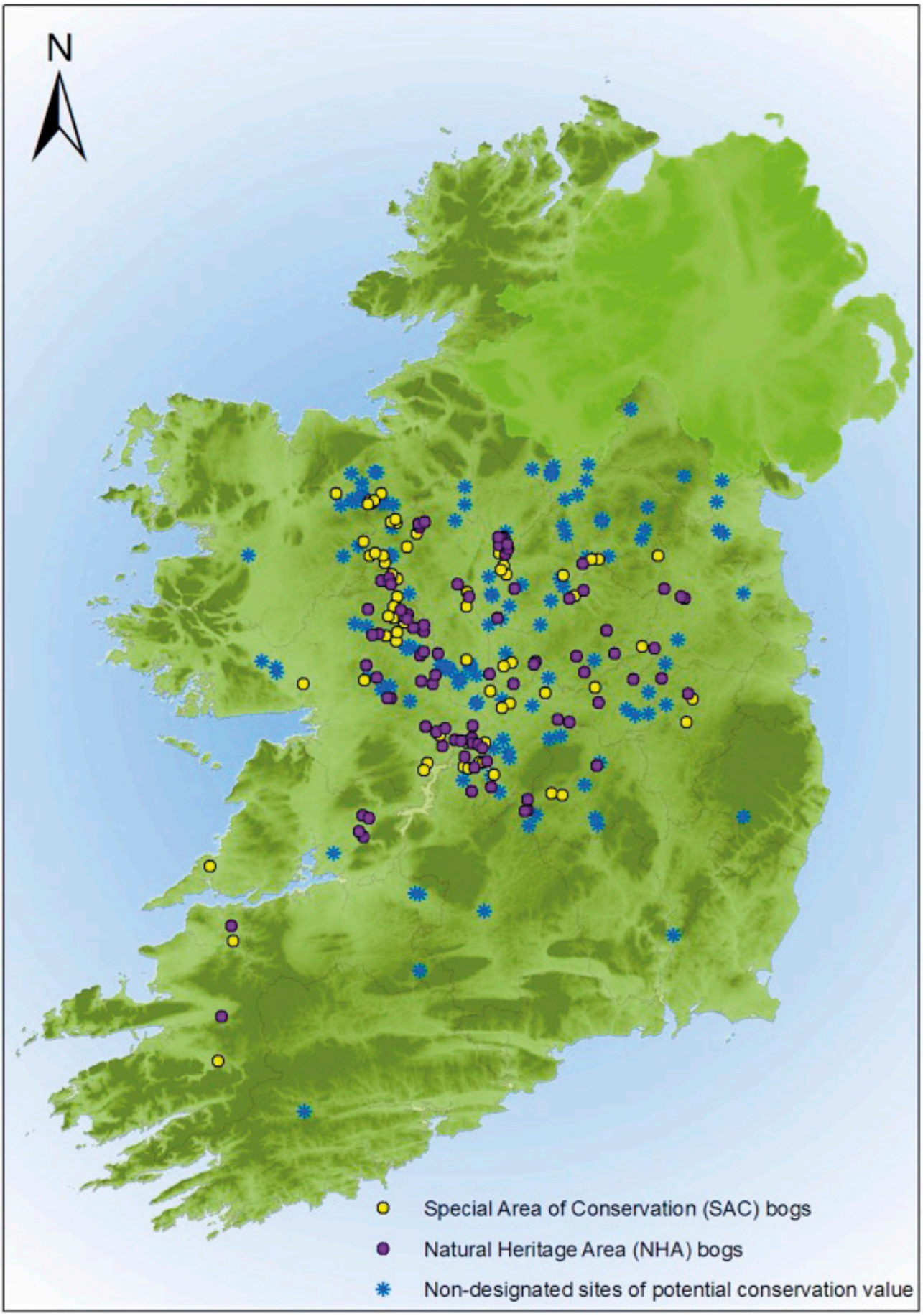


Figure 1 National raised bog network assessed within this draft plan

What conservation objectives or Targets are being set by this draft Plan?

One of the main aims of the Habitats Directive is to ensure that the habitats and species listed in it achieve "favourable conservation status". In essence, this means that these habitats and species are being maintained in satisfactory condition and that this situation is likely to continue for the foreseeable future.

The conservation status of bog habitats listed in the Habitats Directive has deteriorated in Ireland and continues to do so. As a first step in planning the restoration of active raised bog, conservation objectives at different scales need to be set. A conservation objective aims to define how much, where and what conditions are necessary to bring the habitat back to favourable status.

Ireland's commitment under the Habitats Directive is to have a robust raised bog network that is sustainable into the future. This includes the Raised Bog SACs, which are the best remaining examples of the habitat. This commitment includes replacing the area of active raised bog within the SAC network that has been lost since 1994. Table 1 sets out the Condition, Trends and Conservation Objectives (Targets) for Ireland's National Raised Bog Network.

RAISED BOG SAC NETWORK TARGETS

The target of achieving 2,590 ha of active raised bog in the SAC network is derived by summing the areas of active and degraded raised bog in the SAC network at the time of designation in 1994. There is currently 1,210 ha of active raised bog in the SAC network, plus 1,200 of degraded raised bog which can be restored to active using the measures outlined in this plan. However, this still leaves a shortfall of 180 ha and this must be provided by the designation of compensatory habitat into the SAC network. A target of replacing 225 ha of permanently lost high bog within the SAC network has also been set.

NATIONAL NETWORK TARGET

The target of achieving 3,600 ha of active raised bog in the national network is derived by summing the areas of active and degraded raised bog in the SAC and NHA networks at the time of designation in 1994. There is currently a total of 1,530 ha of active raised bog in the SAC and NHA networks, plus 1,605 of degraded raised bog which can be restored to active using the measures outlined in this plan. However, this still leaves a shortfall of 230 ha. Achieving this target will require restoration of a portion of the cut-over bog as well as restoration of degraded bog.

Table 1 Condition, Trends and Conservation Objectives (Targets) for Ireland's National Raised Bog Network

Bog Habitat	Resource	1994 (ha)	2012 (ha)	Change (ha)	Conservation Objective (Target) (ha)
Active Raised Bog (ARB)	**SAC network**	**1,940A**	**1,210**	**-730**	**2,590(A+C)**
	NHA network	490B	284	-206	
	Non Designated Sites	200	145	-55	
	National Resource	**2,630**	**1,639**	**-991**	**3,600(A+B+C+D)**
Degraded Raised Bog (DRB)	SAC network	650C	1,200	+550	
	NHA network	520D	410	-110	
	Non Designated Sites	625	520	-105	
	National Resource	**1,795**	**2,130**	**+335**	
High Bog	SAC network	10,740	10,515	-225	
	NHA network	7,790	7,480	-310	

What Options are available to achieve the conservation objectives or Targets?

PROTECTION AND RESTORATION OPTIONS

Detrimental impacts of human activity on Irish raised bogs range from those which have been demonstrated to be largely reversible through natural processes, for example, re-colonisation/regeneration following localised burning on the high bog, to others where active (engineered) intervention may be necessary to halt degradation and potentially restore Active Raised Bog. In order to meet the Conservation Objectives for the Raised Bog SACs, any restoration measures put in place need to have a long term objective of restoring self-regulating eco-hydrological processes to conditions resembling those encountered in undisturbed raised bog ecosystems.

Areas identified as Degraded Raised Bog are, by definition, capable of being restored or restoring themselves to Active Raised Bog. In order to meet restoration targets, it is desirable to restore as much of the current area of degraded raised bog to active raised bog as possible. Although this may occur spontaneously over long periods of time, in some places, engineered intervention will usually be necessary to arrest continuing losses of active bog and to speed up natural regeneration. Engineered options consist of a wide range of potential measures, requiring contrasting commitments of financial and human resources. In the framework of the current National Raised Bog SAC Management Plan, those measures which seek to maximise the area that can be restored to active raised bog with minimum initial and maintenance costs are considered most appropriate for achieving the Conservation Objectives set for the SACs.

Restoration is most effective where drain blocking and forest clearance is accompanied by the cessation of damaging activities such as turf-cutting, drainage, fires etc.

REPLACEMENT OPTIONS (INCLUDING THE NHA NETWORK REVIEW)

A scientific assessment of the NHA Raised Bog network and the non-designated raised bog sites of potential conservation value was undertaken to:

- fundamentally review the current raised bog NHA network in terms of its contribution to the national conservation objective for raised bog habitats; and
- scientifically determine the most suitable sites to replace the losses of active raised bog habitat and high bog areas within the SAC network and to enhance the national network.

In order that the selection process adopts a sustainable approach the selection criteria consider the primary environmental and technical factors essential for a raised bog's existence now and into the future plus supporting economic and social criteria. Such integration of environmental, technical and socio-economic knowledge, attempting to balance the competing objectives of economic efficiency, social equity and environmental sustainability is employed by the internationally accepted Integrated Water Resources Management (IWRM) approach. However when using the analysis to

determine the most suitable sites to replace the losses of active raised bog habitat and high bog areas within the SAC network, only the environmental and technical criteria were applied as SAC site selection excludes socio-economic considerations.

The scientific assessment, which was supported by an expert panel review, identified three categories of sites under the review:

- Category 1 – contains the best 63 sites from an ecological and restoration potential perspective with relatively low levels of active turf-cutting. These include 36 of the current NHA sites (or parts of NHAs) and site owned by Bord na Móna which are currently not designated and some of which have active turf-plots on the margins. The list also includes an additional 27 sites that are not currently designated and are privately owned (some of these have some turf-cutting activity on them). These sites would be candidates for designation as a new network of NHAs, largely requiring the cessation of turf-cutting on them within a reasonable time-frame.
- Category 2 – contains 46 current NHAs (or parts of NHAs) which have been assessed as having some ecological value but their contribution to the attainment of the national conservation objective is expected to be marginal and/or restoration would be prohibitively expensive for the conservation benefits achieved. The conservation of these sites is not considered to be necessary to reach the National Conservation Objective and it is proposed to move towards the de-designation of these sites.
- Category 3 – contains 83 sites which have been assessed as being of little value in their contribution to the conservation of raised bog habitat in Ireland (i.e. sites with little or no active raised bog or restoration potential).

Sites will be chosen from category one to provide compensatory habitat for the SAC network. The designation process for these new sites will commence in 2014. Until that time, the names and locations of these sites will not be published.

What Conservation Measures are proposed by this draft Plan?

PROTECTION AND RESTORATION OF CURRENT SAC NETWORK

A key element of the plan is to protect currently active raised bog in the SAC network and restore any degraded raised bog habitat that can be effectively restored to active raised bog habitat. The assessment of the eco-hydrological potential of each site in combination with consideration of the efficacy of drain blocking and accompanying restoration measures established that 1,200 ha of active raised bog habitat can be achieved by restoration of the existing SAC network.

ADDITIONAL RAISED BOG DESIGNATION AND RESTORATION TO FULFIL SAC AREA OBJECTIVES

The second element of the strategy is to select sites to provide additional habitat to replace permanently lost areas in the existing SAC network since they were selected for designation. This can be achieved by including currently non-designated areas of active raised bog or degraded raised bog within the SAC network.

From the list of suitable sites identified under the review of non SAC raised bogs of conservation value, it has been decided to achieve this through the designation of two raised bog complexes which are predominantly owned by Bord na Móna.

This includes four of the top five most suitable sites, as determined by the NHA review. As these complexes are owned predominantly by Bord na Móna the sites can be brought into the SAC network relatively quickly and restoration work advanced with the minimum of complications. Some restoration works have already commenced in these areas by Bord na Móna. These designations will provide an additional active raised bog area over 180 ha following restoration with an additional high bog area of over 1100 ha. The current area of active raised bog on these sites is over 30 ha. This also introduces the opportunity to bring clusters/groups of sites into the network, which has added ecological benefits for more mobile species (Grouse and Curlew for example).

CUTOVER RESTORATION

A demonstration project at Clara Bog West will be undertaken to restore the high bog and to evaluate the rewetting of a proportion of the cutover bog. This will support achieving the national objective of 3,600 ha of active raised bog in the SAC and NHA networks combined. Achieving this target will require additional restoration of a portion of the cutover bog to replace the current deficit of 230 ha during the second planning cycle.

SUMMARY OF PROPOSED PROGRAMME OF CONSERVATION MEASURES

In addition to the detailed protection, restoration and replacement measures, Ireland's National Raised Bog SAC Management Plan's proposed programme of conservation measures requires a framework of activities drawn

from existing legislation and conservation initiatives as summarised in Table 3.

The estimated cost of the programme of measures is in the order of €10.8 million over the six year planning cycle. It should be noted that this value excludes the associated public sector costs of DAHG and other government departments and organisations that will play an important role in the plan's implementation. It also excludes costs associated with the compensation and relocation scheme for turf-cutters.

It is important to note that the National and SAC conservation objectives for active raised bog habitat cannot be achieved within the timeframe of the first planning cycle (2014-2020). Restoration measures (drain blockage in both open and overgrown drains, coupled with forestry plantation clearance) will be implemented but it is expected to take at least 10 years after drain blocking is completed before the effects of restoration works start to be realised. A more rapid response is however expected in reversing the current downward trend of active raised bog area before notable increases in area of active raised bog start to develop.

How are the needs of those affected by the draft Plan being addressed?

This draft plan has implications for a large number of people. At a broader level every citizen has an interest in the protection of Ireland's endangered natural habitats and the benefits that they provide. At a local level, communities will continue to benefit from having exceptional ecological sites on their doorstep which will be carefully managed in partnership with local communities into the future. Those most directly and immediately affected are those who use these bogs for activities such as turf-extraction as well as landowners within and adjacent to the SACs.

In general, turf-cutting and its associated drainage is damaging to the ecology and functioning of raised bogs and is incompatible with their conservation. For raised bog SACs, it will in most cases not be possible for the State to consent to further turf-cutting, as the State is legally obliged to prevent such damage to these sites. There are, however, two sets of circumstances, in which turf-cutting could be consented to. These can be referred to as Article 6(3) consents (where it can be shown that cutting will not have an adverse effect on the SAC) and Article 6(4) consents (if there are no relocation possibilities or for imperitive reasons of overriding public interest), under the Habitats Directive.

CONTINUED CUTTING UNDER ARTICLE 6(3)

All specific proposals put forward for cutting within specified parts of particular SACs made by the TCCA and by other turf-cutting groups were examined and assessed as part of the preparation of this draft Plan. The assessments have resulted in three categories of sites/ outcomes.

Proposals were put forward for continued turf-cutting at specific location on four sites (Camderry SAC, Coolrain SAC, Callow SAC and Redwood SAC).

For each of the sites, the proposals have been considered using information on the presence of active raised bog habitat or degraded raised bog habitat within or adjacent to the proposed area for turf-cutting. The physical and hydrological connection between the proposed extraction area and the protected habitats within the site was analysed. The following are some of the criteria which are used in reaching a conclusion.

1. Would the cutting lead to the direct loss of protected habitat?
2. Would the cutting lead to the indirect loss of protected habitat?
3. Would the cutting, necessary drainage and saving of the turf prevent or impede restoration works that will be necessary on the site?

If the answer to any of these questions is yes, or if such an impact cannot be ruled out, then giving consent to turf-cutting would not be possible under Article 6(3). It should be noted that the nature of raised bogs and the impacts of turf-cutting will in most cases lead to a decision that turf-cutting will not be possible. It has been concluded that the four proposals above fall into this category.

A further five proposals were also considered (River Moy (Cloongoonagh), River Moy (Derrynabrock), Lough Ree, Ballinagare, and Lough Lurgeen).

In these cases, following preliminary assessment, it has not been ruled out that limited turf cutting in certain identified areas could be undertaken without having a negative effect. If the potential for continued cutting in these defined areas is to be pursued, it will be necessary to undertake further work to fully assess the possibility. Continued cutting on small areas within these SACs may be possible under strict controls and perhaps for a defined period of time and this will be explored further.

In one case, Tullaher Lough and Bog SAC, it has been possible to identify a significant area within the SAC where turf-cutting could continue without having an

Table 3: Summary of Proposed Programme of Conservation Measures

Measure	Where	When	Who	Cost
1 Protection and Restoration of current SAC network entailing: • Preventative measures (cessation of damaging activities including drainage, peat harvesting and turf cutting, planting of commercial forestry, fires etc.). • restoration measures (drain blockage in both open and overgrown drains, coupled with forestry plantation clearance). • Note: Detailed restoration and management plans for each SAC will be developed during 2014.	Current SAC bogs	2014-2020	DAHG (NPWS)	€1.7 m Preventative measures costed separately in Chapter 6 of this draft plan
2 Additional Raised Bog Selection and Restoration to Fulfil SAC Area Objectives.	Compensatory sites	2014-2020	DAHG (NPWS)	€2.4 m
3 Demonstration Project – Rewetting of Cutover Bog to restore the high bog and to evaluate the rewetting of a proportion of the cutover bog.	Clara Bog	2014-2017	DAHG (NPWS)	€1.5 m
4 EU LIFE Proposal and Project implementation.	Selected SACs	2014-2020	DAHG (NPWS)	Sum of the plan measures cost
5 Support for other conservation works – making funding available to individuals and organisations to carry out approved restoration works.	Selected Sites	2014-2020	DAHG (NPWS)	Not costed in this draft plan
6 Mid-cycle Review of the National Raised Bogs SAC Plan.	National	2017	DAHG (NPWS)	€0.2 m
7 Preparation of Second National Raised Bogs SAC Plan.	National	2020	DAHG (NPWS)	€1.0 m
8 Review of the NHA Network Designation Status (additional NHAs and de-designation of sites of low conservation value).	Current and New NHA Networks	2014	DAHG (NPWS)	Not costed in this draft plan
9 Preparation of a national Raised Bog NHA Management Plan and site specific NHA Restoration and Implementation Plans affording protection and restoration measures akin to those in the SAC Network with supporting Code of Practice and Guidance Documents.	New NHA Network	2014-2016	DAHG (NPWS), DECLG	€1.0 m
10 Raised Bogs Education and Awareness Programme and engagement and consultation with local communities.	National	2014-2020	DAHG (NPWS)	€1.0 m
11 Raised Bogs Monitoring Programme.	National	2014-2020	DAHG (NPWS)	€2.0 m
12 Habitats Regulations implementation to prevent damaging activities.	National	Ongoing	DAHG (NPWS)	Not costed in this draft plan
13 Environmental Impact Assessment Regulations and Environmental Liabilities Regulations implementation to prevent damaging activities.	National	Ongoing	DAHG (NPWS)	Not costed in this draft plan
14 Ensure legislative and policy linkage to other plans and programmes including River Basin Management Plans and Catchment Flood Risk Management Plans.	National	Ongoing	DAHG (NPWS)	Not costed in this draft plan

adverse impact on the protected habitat. This is because the protected habitat is hydrologically separated from the proposed extraction area. It will be possible, in this case to allow a continuation of turf-cutting within a defined area.

CONTINUED CUTTING UNDER ARTICLE 6(4)

The Habitats Directive makes provision for damaging activity to be undertaken on SACs in exceptional circumstances where certain tests provided for in Article 6(4) of the Directive can be met. In short these include the following:

1. That no alternative exists than to undertake the proposed action;
2. That Imperative Reasons of Overriding Public Interest (IROPI) exist that would justify the damage to the SAC;
3. That compensatory measures can be taken to ensure the integrity of the SAC network; and
4. In considering plans and projects involving activities such as turf-extraction, where priority habitats (such as active raised bog) are affected, an opinion of the European Commission is required before consent can be give to a damaging activity.

For this draft Plan, not all of the information required to make this assessment was available. Such information includes the number of turf-cutters who would be prepared to relocate to a nearby undesignated site, the number who qualify for compensation or relocation, the number who might prefer financial compensation and whether the NHA review has opened up new relocation possibilities for certain SACs. It is not possible to definitively establish an absence of relocation possibilities (alternatives) without this information.

Public consultation on this draft plan, and the finalisation of the plan, will provide an opportunity to clarify whether the provisions of Article 6(4) could be applied to any particular SAC within the broader context of the Plan. It could also establish whether sufficient consensus can be achieved at a national level in regard to this issue to make a successful case for flexibility on this basis.

CESSATION OF TURF CUTTING COMPENSATION SCHEME

The mechanisms described in this draft plan to address the needs and rights of turf-cutters and land owners include The Cessation of Turf Cutting Compensation Scheme and relocation of turf cutting activity to non-designated bogs.

- A total of 2,837 applications for compensation under the Cessation of Turf Cutting Compensation Scheme have been received and acknowledged by the Department. 796 applicants have expressed an interest in relocation to non-designated bogs. 1,820 payments have been made in respect of Year 1 of 15, 1,629 payments have been made in respect of Year 2 of 15 and 559 payments have been made in respect of Year 3 of 15. 405 deliveries of turf have also been made.

  Relocation can be a complex process involving the investigation of suitable sites for turf quality and quantity, establishing the infrastructure/drainage works required, establishing the number that can be accommodated on the relocation site, assessing the cost and feasibility of land purchase or lease, and securing necessary planning consents. Establishing the preferences of individual turf-cutters and their entitlements to participate in the scheme can also take time.
- Arrangements for the relocation of turf cutters to non-designated bogs have been made for a group from Clara Bog SAC in County Offaly and a group from Carrownagappul Bog and Curraghlehanagh Bog SACs in County Galway. The group from Clara Bog has now commenced turf cutting at the relocation site. The Department envisages that qualifying turf cutters from the group from Carrownagappul Bog and Curraghlehanagh Bog will be able to commence turf cutting in one of the relocation sites from the 2014 turf cutting season.
- Progress has been made in the relocation of qualifying turf cutters from Ballynafagh Bog SAC in County Kildare to Timahoe North which is in the ownership of Bord na Móna. The Department envisages that qualifying turf cutters from Ballynafagh Bog will be able to commence cutting in the relocation site during the 2014 turf cutting season, provided that final agreement is reached with them.
- Progress has also been made with a view to the relocation of a small group of qualifying turf cutters from Ballynamona Bog and Corkip Lough SAC in County Roscommon to Togher, County Roscommon, which is also owned by Bord na Móna. The Department envisages that this group of turf cutters will be able to commence cutting in the relocation site during the 2014 turf cutting season, provided that final agreement is reached with them.
- Of the remaining 48 raised bog Special Areas of Conservation, potential relocation sites have been identified for a further 32 bogs and work is ongoing on identifying and investigating sites. Relocation is unlikely to be required, or is likely to be small-scale, for another 16 raised bog Special Areas of Conservation due to, for example, the small number that had been cutting turf on these sites during the relevant five year period.

It is thanks in large part to the efforts of turf-cutter representatives, the Peatlands Council, Department officials and Bord na Móna, that such considerable progress has been made to seek solutions to meet Ireland's obligations under the Habitats Directive and to allow turf-cutters to continue to cut turf on alternative non-designated bogs or to provide them with monetary compensation.

The final version of this plan, and a suite of site-specific restoration and management plans which will be developed during 2014-15, will go further towards addressing turf-cutter and land owner needs in a practical way.

FINANCING

The current compensation and relocation schemes established by Government will pay out up to €69 million to turf-cutters over a 15 year period. Further costs will arise from the implementation of restoration and management plans of each of the sites amounting to circa €10.8 million. As the conservation measures and compensation payments are costly, consideration will be given as to whether some of these costs could be met through EU funds. More information on funding is provided in Chapter 6.

What are the benefits of this draft Plan?

Full implementation of the Programme of Conservation Measures set out in this draft Plan will result in a more sustainable network of SAC bogs which bring a wide range of beneficial ecosystem service opportunities. Ecosystem services are the benefits people derive from natural systems.

Ecosystem structures and processes (what the bog is made of and how it works) can be represented as a number of ecological functions which can be measured by well-accepted scientific methods (providing information on how an ecosystem is performing). These functions create services which are then translated into benefits that can be measured by how people value or place importance on those systems and associated products at different spatial levels. This is typically done using valuation methods for ecosystem services. Figure 2 gives an overview of these functions and associated benefits for a typical Irish raised bog. Natural bogs (those with little human impact) are considered one of the most important ecosystems of the world, because of their key value for biodiversity, regulation of climate, water filtration and supply, and important support for human welfare (e.g. source of well-being and knowledge).

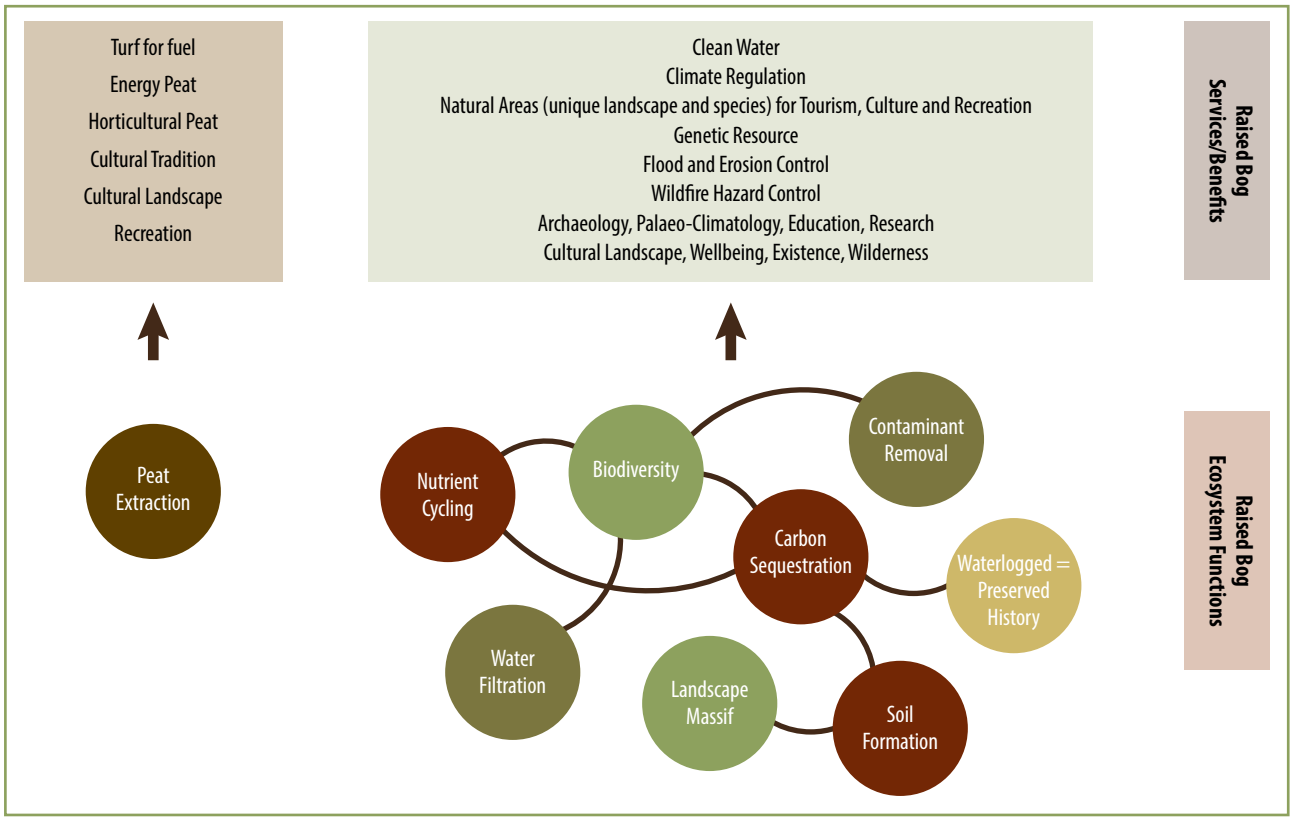


Figure 2: Raised Bog Ecosystem Functions and Services/Benefits

This draft Plan will ensure that while turf cutting needs are met for individuals, and the associated cultural heritage is preserved in non-designated sites (90% of the national raised bog resource), all the other benefits that raised bogs bring to society can be almost all recovered and enjoyed by everyone on the remaining 10% of the resource that is located in the protected sites. Therefore the Plan can bring an overall positive impact on ecosystem services provided by raised bogs, without compromising on cultural and traditional benefits.

Without such a plan, i.e. in a 'business as usual' scenario with continued drainage and turf cutting on conservation sites, Ireland would experience the continued loss of all aforementioned benefits and the cost of losing such benefits will be borne by the whole of society.

What are the Next Steps?

This Draft National Raised Bog SAC Management Plan has been prepared to encourage public participation in the planning process and to enable all interested parties to have their say.

A formal period of Public Consultation will be undertaken between December 2013 and March 2014.

Every submission received during the Public Consultation process will be carefully considered and used to inform the making of the Final National Raised Bog SAC Management Plan. The process of how the submissions have been considered in the making of the Final Plan will be formally documented within the Strategic Environmental Assessment (SEA) Statement which will be published at the same time as the Final Plan.

The Final National Raised Bog SAC Management Plan will be published following consultation.

Please send your comments and views by 18 April 2014 to:

Email: info@raisedbogconservation.com

Web: www.raisedbogconservation.com

Address: Raised Bog SAC Consultation, Unit 33, Innovation Works, National Technology Park, Limerick

APPENDIX

VI SUMMARY OF NHA REVIEW

This document sets out the outcome of the review of the Natural Heritage Area (NHA) raised bogs network in Ireland. As part of the review over 270 raised bog sites were examined including 53 SAC raised bogs, the existing 75 NHA raised bogs, and over 100 other non-designated sites including many in public ownership.

The objectives of the review are to meet nature conservation obligations while having regard to national and local economic, social and cultural needs.

As a result of the review a reconfigured NHA network is proposed. That network has the following advantages over the current network:

1. The areas of both Active Raised Bog and Degraded Raised Bog Still Capable of Natural Regeneration (both protected habitats under the Habitats Directive) will be greater in the new network than in the current network.
2. The new network will significantly improve the geographical range of protected sites to the East, South, West and North.
3. In the short to medium term losses of active bog will be reduced, due to the lower intensity of recent turf-cutting in the new network.
4. Management complexity in the new network will be much lower due the lower number of sites, high bog area and number of active turf cutters and landowners.
5. The inclusion of some large Bord na Mona sites will facilitate more rapid restoration in comparison to smaller privately owned sites.
6. Costs to the tax-payer will be greatly reduced due to the smaller number of turf-cutters requiring to stop turf-cutting and requiring compensation (over. 2,500 fewer turf-cutters will be affected in the new network).

The Active Raised Bog national conservation objective is to achieve 3,600ha in the future in order to achieve favourable conservation status, which is a requirement of the Habitats Directive. The new NHA network will contribute 765ha of Active Raised Bog to the achievement of that target. The remainder will be achieved in the Special Areas of Conservation.

The review identifies a series of steps to ensure that Ireland meets its Habitats Directive obligation to maintain or restore raised bog habitat to favourable conservation status and its Environmental Impact Assessment Directive obligations relating to the regulation of turf cutting on NHAs.

To meet this objective would require:

- The effective cessation of turf cutting on 36* NHAs, by 1 January 2017, in order to preserve their conservation value. Management plans, which will be subject to environmental assessment, will be prepared for each site, similar to those being prepared for the raised bog SACs.
- Existing levels of turf-cutting on these sites may continue until 2017 pending the development of management plans, subject to individual permit of turf bank owners and contractors, to prevent expansion of cutting in these sites. The compensation scheme available to SAC turf-cutters will be extended to these NHAs in 2014 to incentivise earlier cessation of cutting.
- That turf-cutting may continue on the remaining 46* NHAs whose conservation is not required to achieve national conservation objectives. The Minister will move to de-designate these sites and will undertake environmental assessment as part of the de-designation process.
- The designation as NHAs of 25 currently undesignated raised bogs, which are either in public ownership or where there is reduced turf-cutting pressure, to compensate for those NHA bogs where cutting is proposed to continue. Management plans will be developed for these bogs as above and any turf-cutting to be phased out by 2017. Compensation schemes will be made available to affected turf-cutters. The designation process for these new sites will commence later in 2014. Until that time, the names and locations of these sites will not be published.
- Each management plan will contain a set of time-bound actions to ensure that the conservation objectives are met.

This review should be read in conjunction with the overall draft National Peatlands Strategy and draft National Raised Bog SAC Management Plan.

*It has been possible to subdivide seven current NHAs in such as way as to allow for a continuation of turf-cutting in one part and conservation elsewhere on the site. This leads to 82 separate units within the original 75 NHAs.

The full review is available at www.npws.ie

APPENDIX

VII SUMMARY OF PRINCIPLES AND ACTIONS

General Principles		Bodies Responsible
P1	Ireland's peatlands are currently, and can continue to be, used for many purposes including agriculture, development, peat extraction, forestry, conservation and amenity purposes.	All Public Bodies
P2	The potential economic, environmental and social benefits and costs of peatland uses will be considered and applied to policy and land-use decisions.	All Public Bodies
P3	The future management of Ireland's peatlands will ensure the protection of threatened peatland habitats in compliance with environmental laws.	All Public Bodies
P4	The rights and interests of land-owners and land users on Ireland's peatlands will be fully considered in policy and decision making, along with full consideration of the interests of the wider community.	All Public Bodies
P5	Semi State companies, in as far as their statutory mandates allow, and Public authorities will discharge their functions in such a way as to support the objectives of this Strategy.	All Public Bodies
Turbary - Principles		**Bodies Responsible**
P6	The exercise of turbary rights and the use of bogs for families to source their fuel is recognised as an activity which has significant economic and social importance for the families and communities involved.	All Public Bodies
P7	The exercise of turbary rights can continue. However, it will be necessary to restrict turf-extraction in certain areas, for example for the purposes of nature conservation and in keeping with Ireland's legal obligations. Affected turf-cutters will be provided with appropriate compensation packages for losses or will be assisted in making alternative arrangements to meet their fuel needs.	Department of Arts, Heritage and the Gaeltacht (Nature conservation & protected sites)
P8	Turf burning for domestic heat gives rise to high levels of greenhouse gas emissions and air pollutants, compared to the use of alternative fuels. Energy and climate change policies will consider how to incentivise a switch to alternative, more sustainable and efficient energy sources.	Department of Environment, Community and Local Government, (Climate Policy) Department of Communications, Energy and Natural Resources. (Energy Policy)
Agriculture		**Bodies Responsible**
A1	The existing cross compliance requirements set down good agricultural and environmental practices (GAEC) and statutory management requirements (SMRs) which must be followed to ensure the sustainable management of all soils including peatland areas. These provisions (or similar) will be continued under the revised CAP regulations to offer continued safeguards for land protection.	Department of Agriculture, Food and the Marine Department of Arts, Heritage and the Gaeltacht
A2	The management of commonage lands, currently under review will be finalised so as to ensure appropriate, sustainable grazing regimes for upland peat soils.	Department of Agriculture, Food and the Marine Department of Arts, Heritage and the Gaeltacht

A3	The possibility of introducing a peatlands measure under the Rural Development Programme from 2014 to encourage enhanced peatlands management to complement existing cross compliance controls will be explored.	Department of Agriculture Food and the Marine Department of Arts, Heritage and the Gaeltacht
A4	Support for farmers restricted by the requirements of the Habitats Directive in farmed peatlands will be considered as part of the measures designed for the protection of Natura areas in the next Rural Development Programme.	Department of Agriculture Food and the Marine Department of Arts, Heritage and the Gaeltacht
A5	A code of best practice will be established regarding the use of fire as a land management tool, to avoid accidental damage and to limit environmental harm.	Department of Agriculture, Food and the Marine Department of Arts, Heritage and the Gaeltacht Department of Environment, Community and Local Government
Peat Extraction for Horticulture		**Bodies Responsible**
A6	A review of the use of peat in the horticultural industry will be undertaken.	Department of Communications, Energy and Natural Resources
Peat Fired Electricity Generation		**Bodies responsible**
A7	The State energy companies will continue to work with the biomass sector on the potential of co-firing in the short term at the three State owned peat stations. Biomass power generation projects will be supported through the REFIT scheme.	ESB Bord na Móna Department of Communications, Energy and Natural Resources
Forestry		**Bodies responsible**
P9	Forest policy will consider and assess whether sufficient safeguards are currently in place to ensure that inappropriate afforestation does not occur on peatland.	Department of Agriculture, Food and the Marine Coillte
P10	The forest policy review will take into account, amongst other things, the impact of planting on hydrology, impacts on carbon loss and sequestration and the potential for adverse impacts on neighbouring water courses.	Department of Agriculture, Food and the Marine Coillte Department of Environment, Community and Local Government
P11	Relevant Authorities will ensure that forestry measures and management plans protect and enhance peatland habitats and associated species, as appropriate.	Department of Agriculture, Food and the Marine Coillte Department of Environment, Community and Local Government EPA Local Authorities

A8	As part of the Forest Policy Review the relevant authorities, working with stakeholders, will introduce guidance and criteria for the identification and future management of peat areas currently afforested. They will also provide clear guidance on future afforestation of peat soils.	Department of Agriculture, Food and the Marine Coillte Department of Environment, Community and Local Government
Management of State owned lands		**Bodies Responsible**
P12	Future management of these state-owned peatlands will be in keeping with the objectives of the Strategy.	All Public Bodies responsible for management of lands
A9	The present management of State-owned peatland areas will be evaluated and alternative management options aimed at increasing the delivery of all the ecosystem services of naturally functioning peatlands will be considered.	All public bodies responsible for management of lands
After-use of industrial cut-overs and de-forested peatlands		**Bodies Responsible**
P13	Bord na Móna will assess and evaluate the potential of the company's land bank, using a land use review system. The assessment will help prepare a set of knowledge-based management plans for the various areas of peatland. These plans will also inform its cutaway bog rehabilitation programme.	Bord na Móna
P14	The policy of Bord na Móna is not to open up any undrained new bogs for peat production.	Bord na Móna
P15	Lands identified by Bord na Móna as having high biodiversity value and/or priority habitats will be reserved for these purposes as the principal future land use.	Bord na Móna
P16	Generally, Bord na Móna cutaway bogs that flood naturally will be permitted to flood unless there is a clear environmental and/or economic case to maintain pumped drainage.	Bord na Móna
P17	An examination of all publicly owned lands and privately owned cutaway will be undertaken with a view to identifying appropriate uses, which will aim to harness their potential to contribute to Ireland's environmental, ecological and economic wealth, with particular emphasis on mitigating carbon losses.	All public bodies
P18	In deciding on the most appropriate after-use of cutaway peatlands, consideration shall be given to encouraging, where possible, the return to a natural functioning peatland ecosystem. This will require re-wetting of the cutaway peatlands which may lead in time to the restoration of the peatland ecosystem.	Bord na Móna
P19	Environmentally, socially and economically viable options should be analysed to plan the future use of industrial cutaway peatlands, in conjunction with limiting factors as outlined in Bord na Móna's *Strategic Framework for the Future Use of Peatlands*.	Department of Arts, Heritage and the Gaeltacht Department of Communications, Energy and Natural Resources Department of Agriculture, Food and the Marine Bord na Móna

P20	New crop production techniques, such as paludiculture (especially cultivation of Sphagnum moss), will be explored.	Department of Environment, Community and Local Government Department of Agriculture, Food and the Marine
P21	The viability of using cutaway peatlands for flood attenuation measures will be considered as part of a national programme of Flood Risk Management Plans being rolled out under the Floods Directive.	OPW Bord na Móna Coillte
P22	The work of Bord na Móna, Coillte and the Irish Peatlands Conservation Council in developing ecologically rich futures for cutaway and formerly forested bogs will be developed. Such areas can bring new tourism and recreation attractions to the midlands and the west.	Bord na Móna Coillte
Peatlands and Climate Change		**Bodies Responsible**
P23	The potential contribution of peatlands management to climate change mitigation will be fully explored. The immediate priority will be to address research requirements and to establish the information required to support the development of an informed policy position. This will include the development of a sound technical basis For analysis and reporting of greenhouse gas emissions and removals associated with wetlands.	Department of Environment, Communtiy and Local Government EPA
P24	As part of Ireland's commitment to move towards a cleaner more carbon efficient economy, means to reduce the dependency on peat as a source of fuel and horticultural compost will be fully explored.	Department of Environment, Community and Local Government (Climate Policy) Department of Communications, Energy and Natural Resources (Energy Policy)
P25	Consideration will be given to how best cut away bogs can contribute to a low carbon economy through their use as sites for renewable energy.	Bord na Móna Department of Communications, Energy and Natural Reources (Energy Policy) Department of Environment, Community and Local Government (Planning & Climate Change Policy)
P26	An assessment will be undertaken of the value of identifying a number of priority peatland sites as part of a network of climate change related indicators and for their establishment as EU and global monitoring sites.	EPA Department of Environment Community and Local Government
A10	The National Raised Bog SAC Management Plan will provide for the restoration of raised bog SACs.	Department of Arts, Heritage and the Gaeltacht

A11	An approach to the appropriate restoration measure of blanket bog sites selected for designation as SACs or NHAs will be considered as part of a national approach to the management of such sites, in compliance with relevant EU and national legal requirements and in full consultation with the local community and affected landowners.	Department of Arts, Heritage and the Gaeltacht
Adaptation Principals		**Bodies Responsible**
P27	Further research will be carried out into the potential contribution of functioning peatlands to Ireland's resilience and adaptation to climate change.	Department of Environment Community and Local Government Department of Arts, Heritage and the Gaeltacht
P28	The vulnerability of Ireland's functioning peatlands to the impacts of climate change will be assessed.	Department of Arts, Heritage and the Gaeltacht Department of Environment Community and Local Government
Peatlands Protected under the EU Habitats Directive		**Bodies Responsible**
A12	The Office of Public Works, in co-operation with the Department of Arts, Heritage and the Gaeltacht will progress a pilot Drainage management plan for a fen SAC. This pilot will allow for more elaborated conservation objectives to be prepared for the fen habitat in general.	The Office of Public Works Department of Arts, Heritage and the Gaeltacht
Addressing infringements - Actions		**Bodies Responsible**
A13	The 53 raised bog SAC sites host the most important raised bog habitat and will be subject to the highest level of protection. A cessation of turf-cutting on these sites has been effected and the Government has put in place compensation and relocation schemes. Outstanding issues will be addressed through a National Raised Bog SAC Management Plan, a draft of which has been prepared to give clarity on how these sites will be managed and restored and how the interests and concerns of turf-cutters and land-owners will be addressed. The Plan will explore the possibility of applying some limited flexibility, within the terms of the Habitats Directive, where options for relocating turf-cutters are limited. See Appendix V.	Department of Arts, Heritage and the Gaeltacht
A14	A review of Ireland's raised bog NHAs has also been undertaken with a view to providing scientific clarity on the contribution of these sites to the conservation of Ireland's raised bog resource, certainty to land-owners in regard to how activities, such as turf-cutting are to be regulated and assurance on how the requirements of EU law are to be met. See Appendix VI.	Department of Arts, Heritage and the Gaeltacht
A15	Ireland is obliged to devise and implement a system of management that will ensure that turf-cutting on blanket bogs continues in such a way that will not threaten the integrity of SACs. Management plans will be drawn up in consultation with local communities to ensure that these important peatlands are managed in compliance with EU law and to ensure sustainable use of the peat resource for the benefit of the community. Work will commence on preparing such plans in the coming months. An approach to the regulation of such activities on raised bog NHA's will be developed in parallel.	Department of Arts, Heritage and the Gaeltacht

Turf Extraction, Planning and Environmental Protection		Bodies Responsible
A16	The existing legal framework relating to the regulation of peat extraction in terms of planning, environmental protection and wildlife protection will be reviewed, and recommendations developed to bring about a clearer, proportionate and enforceable system of regulation that also ensures compliance with appropriate EU environmental legislation and to ensure best practice in peat extraction operations.	Department of Environment, Community and Local Government Department of Arts, Heritage and the Gaeltacht EPA
A17	Ireland will devise and implement a system of management that will ensure that turf-cutting on blanket bog SACs continues in such a way that will not threaten the integrity of the sites. Management plans will be drawn up in consultation with local communities to ensure that these important peatlands are managed in compliance with EU law and to ensure sustainable use of the peat resource for the benefit of the community. Work will commence on preparing such plans in the coming months.	The Department of Arts, Heritage and the Gaeltacht
A18	Consideration will be given to ending the use of the sausage machine, or to allow its use in specific areas only, under permit. Turf-cutting contractors and other interested parties will be consulted in the course of the development of such proposals.	Department of Arts, Heritage and the Gaeltacht Department of Environment, Community and Local Government
A19	Turf-cutting on raised bog NHAs will be undertaken in accordance with the provision laid down in Appendix VI.	Department of Arts, Heritage and the Gaeltacht
A20	The Department of Arts, Heritage and the Gaeltacht, Geological Survey of Ireland, Ordnance Survey Ireland, the Department of Environment, Community and Local Government, Property Registration Authority, the Department of Agriculture, Food and the Marine (the Land Commission) and local authorities will continue to cooperate to generate improved baseline information as to the extent of extraction activities and information on land ownership and turbary rights and information on the extent and physical (including geotechnical) aspects of Ireland's peatlands.	The Department of Arts, Heritage and the Gaeltacht Geological Survey of Ireland Ordnance Survey Ireland Department of Environment, Community and Local Government Property Registration Authority Department of Agriculture, Food and the Marine Local Authorities
Responsible Exploitation		**Bodies responsible**
A21	Bord na Móna is committed to ensuring that the use of the existing drained bogs and peatlands will be in accordance with the International Peat Society's Strategy for Responsible Peatland Management. Other peat extracting companies will be encouraged to sign up to this strategy.	Department of Environment, Community and Local Government (Planning)
A22	All peat extracting companies – both public and private operators – will be brought fully within the relevant applicable regulatory codes.	Department of Environment, Community and Local Government (Planning)

Appropriate Assessment		Bodies Responsible
A23	To ensure compliance with article 6 of the Habitats Directive, further guidance will be developed to carry out Appropriate Assessment of plans or projects involving peatlands. Special attention will be given where exploitive utilisation (including turf cutting) is taking place on or near protected sites.	Department of Environment, Community and Local Government (Planning) Department of Arts, Heritage and the Gaeltacht
A24	Emphasis will be put on the need to address cumulative/ in-combination effects arising from other projects, including non-peat extraction projects (e.g. wind farms). The existing regulatory system will be reviewed to ensure that all relevant peat extraction is subject to AA. In addition, the assimilative capacity of the peatland to absorb impacts will be considered.	Department of Environment, Community and Local Government Department of Arts, Heritage and the Gaeltacht
Wind Farms		**Bodies Responsible**
A25	The finalisation of the focused review presents an opportunity to present updated guidance on the matters above and in relation to appropriate assessment and environmental impact assessment aspects. Specific guidance in relation to appropriate assessment will be included in the revised guidelines. This will be informed by guidance from the European Commission regarding such developments on Natura 2000 sites. Consideration will also be given to the inclusion of guidance relating to a requirement for the assessment of the peat strength over the profile depth by reference to new tools developed within the BOGLAND project to be used in stability assessment.	Department of Environment, Community and Local Government Department of Arts, Heritage and the Gaeltacht
Water Quality, Water Framework Directive and Flooding		**Bodies Responsible**
P29	Policies and decisions relating to the use of peatlands shall take full consideration of potential impacts on water quality and the attainment by the State of mandatory water quality standards.	Department of Environment, Community and Local Government Environmental Protection Agency All Public Bodies
A26	An assessment shall be undertaken of the additional costs of treating drinking water arising from peatlands degradation and options proposed for reducing such costs through appropriate peatlands management.	Department of Environment, Community and Local Government Uisce Éireann
Rehabilitation and Restoration		**Bodies Responsible**
P30	Coillte and Bord na Móna as the managers of significant tracts of peatlands on behalf of the Irish people will continue to show leadership in responsible management, rehabilitation and restoration of peatlands.	Coillte Bord na Móna
A27	A comprehensive programme of restoration of Raised Bog SACs shall be undertaken through the implementation of the Raised Bog SAC Management Plan, in partnership with affected land-owners.	Department of Arts, Heritage and the Gaeltacht

Public Awareness & Education		Bodies Responsible
A28	Relevant public authorities will review their activities and approaches in regard to education and public awareness of the value and uses of peatlands and will outline the outcome of their review to the Peatlands Strategy Implementation Group . The Peatlands Group, in consultation with the Peatlands Council will assess current activities, including those of NGOs, and make recommendations to Government regarding further measures that may be required to inform the public of the economic, social and environmental benefits of responsible peatlands management. The recommendations of the Bogland Report will be considered by the Peatlands Group in this context.	All Public Bodies
A29	The Peatlands Strategy Implementation Group (See Chapter 5) will be tasked with considering this recommendation. A starting point for such consideration will be an examination of existing and potential visitor facilities in the ownership of public, semi-State and voluntary bodies.	Peatlands Strategy Implementation Group
Tourism & Recreational Use		**Bodies Responsible**
A30	The enhancement of peatlands as sustainable tourism and recreation amenities will be considered as part of the National Raised Bog SAC Management Plan.	Department of Arts, Heritage and the Gaeltacht
A31	The consideration of peatlands as an amenity will form a central part of Ireland's application under the LIFE programme.	Department of Arts, Heritage and the Gaeltacht
Unauthorised Dumping		**Bodies Responsible**
A32	The National Raised Bog SAC Management Plan will include provisions to tackle unauthorised dumping on such sites.	Department of Arts, Heritage and the Gaeltacht Local Authorities
Research		**Bodies Responsible**
A33	These areas of research will be assessed and a priority ranking assigned to each topic, along with indicative costs, duration and the exact scope of the research required, with a view to implementing a programme of research projects.	Environmental Protection Agency Department of Arts, Heritage and the Gaeltacht

VIII SCREENING FOR STRATEGIC ENVIRONMENTAL ASSESSMENT AND FOR APPROPRIATE ASSESSMENT

Screening Overview of the Strategy for SEA

The text in italics after the paragraph titles refers to the headings and sub-headings in Schedule 1 of S.I. 435 of 2004 (EUROPEAN COMMUNITIES (ENVIRONMENTAL ASSESSMENT OF CERTAIN PLANS AND PROGRAMMES) REGULATIONS 2004).

1. What the Strategy does.

(a) An outline of the contents and main objectives of the plan or programme, or modification to a plan or programme, and relationship with other relevant plans or programmes ;

This strategy identifies a vision, values and principles for the use and management of Ireland's peatlands. Within the framework of the Strategy, public authorities and relevant semi-state bodies will assess and review their sectoral policies, plans and programmes (e.g. plans under the Planning Acts, the Water Framework Directive, the Floods Directive and afforestation and plans and programmes of Government Departments and state owned companies (such as Bord na Mona and Coillte)) with a view to co-ordinating them, and aligning them with these values and principles. The core of this vision is to achieve an integration of the diverse players that relate to peatlands so as to protect this resource, ensuring that the habitats hosted by protected sites will be maintained at or restored to good conservation status, while enabling peatlands to contribute to social well-being and economic activity. This Strategy has been designed to enable plans made under its principles to meet the range of objectives and obligations that arise under environmental legislation.

2. The Issues that have given rise to the Strategy

(b) The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme, or modification to a plan or programme;

Peatlands have accumulated over millennia, creating an important economic raw material on which the livelihoods of certain rural populations have critically depended. The extraction of peat for fuel grew in importance as native forests were lost, and generations of Irish families have relied on turf as their only source of fuel for heating and cooking. Many communities in Ireland have been dependent on the exploitation of peat for fuel, which was originally carried out only at a domestic, subsistence level, but since the mid-20th Century, also on an increasing industrial scale led by Bord na Mona, a State enterprise established by Statute in 1946.

By the early 1980s, in line with a growing international realisation of the importance of protecting the earth's biological & ecological resource, it was realised in Ireland that - particularly in relation to the peatlands of the midlands, which in the 1950s had seemed practically inexhaustible - continued industrial extraction had the potential to destroy almost all the remaining raised bogs there. This awareness led the State to identify the most important peatlands for protection under domestic legislation.

The Areas of Scientific Interest then identified laid the foundations for the later designations of Special Areas of Conservation under the Habitats Directive and Natural Heritage Areas under the Wildlife Acts. The largest remaining intact or semi-intact raised bogs were in the east midlands (Longford, Kildare, Laois & Offaly). When these sites were nominated for designation a significant number of them were principally owned either by Bord na Móna or the Land Commission. Plans for the commercial exploitation of these bogs were shelved and ownership was transferred to the Minister for Arts, Heritage and the Gaeltacht. However, many of the more intact sites identified for protection were smaller, unsuitable or less attractive for industrial scale extraction, and located in more westerly areas. Many were owned privately or were subject to long-standing turbary (turf cutting) rights. In seeking to protect Ireland's natural peatland heritage and fulfill the State's legal obligations it was necessary to protect the best of what was left.

Blanket bogs of the western seaboard and upland areas are also of significant ecological and landscape value. Only very limited areas of these extensive relatively shallow bogs offered any potential for industrial extraction. However they were, and remain, an important resource for domestic fuel in these areas.

Fens are peatlands that formed from vegetation fed by mineral-rich groundwater. Natural fens are now rare, as 97% of the country's fens have been drained for agriculture. The best examples of Ireland's remaining fens are within Special Areas of Conservation that have been selected for their protection.

It is necessary, to avoid irreparable loss of these already diminished resources, to adopt a national strategy as a framework for their sustainable use, protection and restoration. In the absence of a co-ordinated national vision, it is unlikely that optimum outcomes can be achieved.

Peatlands are important carbon sinks. Over millennia, deposits of organic material have built up. The removal and burning of turf and peat contributes to carbon dioxide levels in the atmosphere. Of all the fossil fuels, peat emits the highest levels of CO2 per unit of energy released through burning. Furthermore, the drying out and degrading of peatlands following drainage for peat extraction as well leads to a spontaneous process of oxidation which also contributes to atmospheric carbon dioxide. While growing bogs release methane into the atmosphere, the balance of bog growth against such greenhouse gas releases is positive as an active[36] bog is a very effective carbon sink. In the planning of peatland conservation, restoration and exploitation, plans will need to include carbon budgets to enable the process to take due account of this.

3. The Distinctive Environmental Characteristics of Peatlands

(c) The environmental characteristics of areas likely to be significantly affected;

Peatlands represent a series of waterlogged or historically waterlogged habitats in which low nutrient levels and/or anaerobic conditions have led to the accumulation, often over periods of millennia, of peat, i.e. incompletely decomposed vegetation, largely unmixed with mineral soil, ranging in depth from a few centimetres to several metres. These habitats have a distinct hydrology, topography and ecology, hosting specialist plant and animal communities and making a distinct contribution to the landscape and its biodiversity. The usefulness of these organic deposits as fuel and as a medium for horticulture, combined with endeavours to exploit them for agriculture and forestry, have resulted across Europe in the complete loss or great reduction of pristine peatlands in many countries and regions where they previously occurred. While these processes have also taken place in Ireland, there still remain a small number of sites containing good quality or peat-forming habitat which, in the European and indeed global context, are of very great scientific interest and importance. The most valuable such sites have been established as SACs or NHAs under the Habitats Directive and the Wildlife Acts respectively.

4. Environmental Problems to be addressed in the Strategy

(d) Any existing environmental problems which are relevant to the plan or programme, or modification to a plan or programme, including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to the Birds Directive or the Habitats Directive;

Ireland has a long and deeply-rooted cultural, social and economic history of using peatlands as a source of fuel, both at a domestic and commercial scale. Originally turf was harvested by hand, using a special spade known as a sleán, and extracted using animal power. The mechanisation of the harvesting of turf for fuel and horticulture, pioneered by Bord na Mona from the 1940s, greatly increased the scale of such exploitation and provided an important source of rural employment. More recently, small scale machinery has become available that greatly reduces the labour involved in cutting turf, and that has increased the scale of domestic and small-scale commercial exploitation and provided opportunities for turf cutting contractors.

In bringing turf-cutting to a conclusion at raised bog SACs, as required if they are to be protected, the State has had to address the understandable concerns and interests of those using these sites as a source of fuel. Turf-cutters on these sites have been asked to accept a significant imposition in regard to their use of their land, for the benefit of the wider community. A compensation and relocation package for turf cutters to address their needs has been heavily subscribed. While most turf-cutters have engaged in this scheme, some unauthorized turf cutting has been undertaken on a number of sites. A number of cases are before the Courts.

5. Statutory Provisions to be addressed by the Strategy

(e) the environmental protection objectives, established at international, European Union or national level, which are relevant to the plan or programme, or modification to a plan or programme, and the way those objectives and any environmental considerations have been taken into account during its preparation;

The statutory provisions to be addressed by the Strategy are the protection of peatland habitat in designated sites: SACs (under the Habitats Directive) and NHAs (under the Wildlife Acts), the restoration where feasible of active raised bog, and the establishment of a nationally agreed sustainable approach to peatland conservation and the exploitation of peat as a resource in a manner that will avoid further losses of high conservation value peatlands. Water quality objectives and requirements under the Water Framework Directive and the protection of fauna and flora under the Wildlife Acts are also to be addressed. The role of peatlands in the carbon cycle is a central consideration

36 An active bog is one that is, at least in part, biologically functional and peat-forming

and the potential for its management to contribute to Ireland's mitigation and adaptation efforts is explored.

6. How is the Strategy likely to affect the Environment?

(f) The likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors;

The Strategy will not have a direct effect on the environment. Benefits to the environment will arise through the sectoral or cross-cutting plans and programmes that are to be made in accordance with and informed by the Strategy. These will take account of and make the necessary provision for managing:

(a) the protection and enhancement of the remaining resource of intact or restorable peatland habitat types, and by that means, protection of the characteristic species of those habitats;

(b) the significant element of the rural economy that at present depends on the harvesting of turf for domestic and commercial purposes, providing a local source of fuel and employment;

(c) the conservation of a series of distinctive peatland habitats that host a distinctive range of flora and fauna;

(d) the avoidance and prevention of inappropriate land use and development that would lead to the loss of peat cover, destruction of biologically active bog surfaces, erosion, siltation, airborne dust, and the destabilisation of peat deposits that are liable to erosion and land slippage;

(e) water retention in the landscape, flood and drought attenuation, surface water quality, volumes and flow, hydromorphology, absorption of water into groundwater, groundwater volumes and water table, hydrogeological issues, siltation, sedimentation and natural cleansing of water;

(f) airborne dust and silt

(g) greenhouse gases, carbon capture by active bogs, carbon release by use of peat as fuel, carbon release by degrading peatlands, use where appropriate of cutover peatlands for the siting of wind farms, microclimate, evapotranspiration, bogs as fossil record of previous climate and climate change;

(h) availability, quantity and expected lifespan of resource for harvesting, loss of turbary rights, compensation issues, depletion of peat;

(i) cultural, architectural, archaeological and geological heritage including the importance of peatland and bogs for archaeology, preservation of known, newly-discovered and yet to be discovered archaeological sites, palaeontology, cultural and industrial heritage of relationship with peat and peatlands, turf cutting tradition, folklore, education, ecological and cultural tourism; and

(j) the unique landscape-forming character of peatlands, the potential for the use of cutover bogs to provide landscape diversity, enhance local biodiversity, offer opportunities for recreation and tourism and create other features of local distinction.

This Strategy will provide the necessary criteria for determining which areas of peatland, having regard to their conservation value, may continue to be harvested for domestic and commercial purposes, without compromise in attainment of national conservation objectives for peatland habitats, loss of water quality or other unacceptable environmental outcomes. This will require the effective cessation of turf cutting at some sites (raised bog SACs and retained raised bog NHAs). It will enable the identification of sites where the continued harvesting of turf will not compromise the protection of this habitat type at a national level, including sites to which the owners of turf cutting rights on protected peatlands can be relocated as part of a series of compensatory measures. It will identify the role and potential of peatland to contribute to the economic and social well-being of communities in ways that do not involve consumption of the resource. It will provide for the protection, restoration and management of ecologically important peatlands and will offer a framework for a broad public appreciation of peatlands as a common heritage and as a shared resource.

7. Measures envisaged to prevent, reduce and offset any significant adverse effects on the environment of applying the Strategy.

(g) The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme, or modification to a plan or programme;

Those peatlands where turf-extraction can take place will include ones of low conservation priority and value in terms of flora, fauna, habitat types and landscape, of

low potential for ecological restoration and where the extraction of peat will not have unacceptable impacts on biodiversity or water quality. They will include degraded and fragmented peatlands where restoration is not a feasible or economically practical option. They will also include some sites which may have some ecological interest, but whose conservation is not necessary to the attainment of national conservation objectives for peatland habitats and where conservation would be prohibitively expensive, would be likely to result in low ecological returns for the investment or would be prohibitively disruptive to economic or social activity.

The designation of additional raised bog NHAs to enhance the range of protected sites and to offset the de-designation of low priority NHAs will be an objective of the Strategy. While there are potential impacts of renewed or further harvesting of turf from de-designated sites on biodiversity, water quality and archaeology, this strategy provides that, at plan level, such impacts will be subject as applicable to EIA, screening for AA and AA as required.

8. Why this Strategy?

(h) An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information;

The Irish authorities have, for many years, been endeavouring to reconcile the need to conserve the country's nationally and internationally important heritage of peatlands and the needs of commercial and domestic turf cutters. This endeavour has been undertaken mainly on a local, site by site basis, and under a regime that permitted continuing harvesting at sites of high conservation value, where there was no general public acceptance of the withdrawal of traditional turf cutting rights, such property rights being protected in the Constitution. In recent years, efforts by the State to ensure the cessation of turf cutting on European sites (SACs) designated for the conservation of raised bogs have met with resistance and protest by persons with or claiming extant rights to cut turf there, a reluctance on the part of some to accept a package of compensation or relocation measures that were offered by the State, as well as a willingness on the part of some contractors to cut turf on protected sites. To assist in seeking a resolution, the Peatlands Council was established and a process of engagement between the State and the turf cutters was put in place. Out of that process has emerged this proposal to establish a national strategy for peatlands.

Peatlands play an important role in water quality, climate change, water regulation, energy, agriculture, employment, forestry and industry. Challenges in regard to Ireland's compliance with EU environmental laws and perceived deficiencies in Ireland's regulation of the use of peatlands demands a cross-Government approach. More coherent and joined-up policy making is required.

9. Implementation and Monitoring of Strategy

(i) A description of the measures envisaged concerning monitoring of the significant environmental effects of implementation of the plan or programme, or modification to a plan or programme;

The implementation of the Strategy will be driven by a Peatlands Strategy Implementation Group, comprising the competent authorities of the State, chaired by the chair of the National Peatlands Council, the Stakeholder Group which has advised on the development of the Strategy. This group will drive a co-ordinated implementation of the Strategy and monitor and report to the Government on progress.

10. Summary and Conclusion

(j) A non-technical summary of the information provided under the above headings;

THE NATIONAL PEATLANDS STRATEGY

This Strategy identifies a vision, values and principles for the future use, management and conservation of Ireland's peatlands. Relevant public authorities will undertake sectoral reviews of their policies and outline how they will realign their policies and programmes, where necessary, to ensure consistency with the objectives of the Strategy. Sectoral plans an programmes will comply fully with the requirements of the EU SEA, Birds, Habitats and Water Framework Directives.

The Strategy will be implemented and monitored by a Peatlands Strategy Implementation Group. Plans made under this Strategy will protect peatlands designated as SACs and NHAs from further exploitation that would lead to a deterioration of their conservation status. In addition, peatlands will be protected from development or exploitation that would result in the deterioration of areas that are within European sites, that would result in increased degradation, erosion or destabilisation of areas of peatland, or that would result in a deterioration of water quality. They will be subject to EIA and to screening for appropriate assessment and, where necessary, appropriate assessment, and will:

- Protect and preserve peatlands of high conservation interest.
- Take steps for the restoration of peatlands that have been identified as suitable for restoration.
- Provide replacement plots for the harvesting of turf as part of a compensation package for persons required to cease turf cutting because their existing plots are within peatlands identified for preservation and who wish to continue turf cutting.
- Identify, take account of, and develop the ecological services provided by peatlands, and the use of cutover bogs for local biodiversity enhancement.
- Provide for appropriate use of commercial cutover bog sites for appropriate tourist and recreational activities including ecotourism, for renewable energy projects, and for suitable afforestation and agricultural use.
- Provide for Peatlands management to be undertaken with full consideration for climate change and water quality and other relevant environmental legislation.
- Ensure that development or inappropriate land use in or adjoining peatland, individually or in combination with other development or land use, does not diminish or otherwise adversely affect Ireland's resource of peatland that is protected on account of its high conservation value or hinder its restoration to good conservation status.
- Manage the appropriate exploitation of peatland so as to ensure that that exploitation does not result in damage to protected sites or to the wider environment, that soils are protected and in particular that water quality is delivered.

The Strategy sets out generic areas or actions that generally require that further consideration and review is undertaken (including SEA/AA/EIA) rather than setting concrete actions for which assessments can be undertaken now or making policy decisions at this point. Accordingly, undertaking SEA on the strategy is premature and needs to be undertaken at the plan or programme level in order to achieve the objectives of that Directive. The Strategy has been, on these grounds, screened out for SEA.

Screening for Appropriate Assessment

A key vision of the Strategy is to protect peatland European sites from further deterioration and to improve their conservation status. This will involve the relocation of existing turf cutting rights holders to alternative sites so as to prevent further loss or damage at the European sites and to enable rehabilitation and restoration work to proceed. This work insofar as it relates to the sites is elaborated, in the first instance in the National Raised Bog SAC Management Plan, a draft of which is published with this draft Strategy. A Natura Impact Statement accompanies that draft Plan and an Environmental Report for SEA purposes.

The potential impact of the use of peatlands for such activities as the continued cutting of turf, afforestation, development. Intensified agriculture and water resources management – on European sites, which may not themselves be peatland sites – will need to be subjected to appropriate assessment at the level of the sectoral plans and ultimately at individual project level. That potential clearly underscores the need, at plan and project level, to establish whether it will be possible to proceed, taking account of in combination effects, avoidance and mitigation, without there being a risk to the integrity of a European site or sites. This Strategy recognises the possibility that such issues will arise, and that plans and projects that are being developed to help realise its vision, values and principles for the sustainable use and management of Ireland's peatlands will in some cases require to be changed in the light of the conclusions of screening for appropriate assessment or appropriate assessment. A core value of the Strategy is full compliance with all of the applicable provisions of EU and of national law. It is recognised that this will require the compiling and collection of additional data and information at the plan and project stages and the proper scientific analysis of that data in drawing conclusions and reaching decisions.

In view of this core value, and in line with what has been already stated, i.e. that the Strategy sets out generic areas or actions to inform plans and provides that further consideration and review is required at the plan and project stages so as to ensure that all measures taken will meet with the commitment in the Strategy to comply fully with the Habitats Directive, this Strategy has been screened out for appropriate assessment.

IX FOREST SERVICE GUIDELINES

Forest Service Guidelines

Forest Service Guidelines set out the current system for forestry consents and conditions for compliance with planning legislation, including provisions for statutory and public consultations. Principally, it regulates key forest activities undertaken within both the private sector and by Coillte Teoranta (The Irish Forestry Board), via S.I.558/2010 (regarding afforestation and forest road construction), the 1946 Forestry Act (regarding thinning & felling / replanting), and S.I.125/2012 (regarding aerial fertilisation). The Forest Service also has a role under the Birds & Habitats Directives (transposed under S.I.477/2011) and), the Water Framework Directive (transposed principally under S.I.722/2003), climate change commitments, etc.

Applications for approvals in relation to the above forestry activities undergo assessment by the Forest Service, including inter alia GIS-based desk assessment, field inspections, the application of Appropriate Assessment Procedure (see below), an assessment of the requirement for an EIS for sub-threshold developments, referral to various bodies, and public consultation. Any approval issued in relation to afforestation, forest road construction, felling (including thinning and clearfelling/replanting) and aerial fertilisation is based principally on adherence to the *Code of Best Forest Practice – Ireland* and a suite of environmental guidelines. These 'guidelines' are mandatory, and cover various aspects of the environment, including water, biodiversity, landscape and archaeology, and also specific species including Freshwater Pearl Mussel, Otter and Kerry Slug.

All applications to the Forest Service for consent (with or without grant aid) or licence must adhere to the Forest Service environmental 'guidelines'. Regarding applications for *consent / grant / licences* for afforestation, thinning, clearfelling/reforestation, forest road works & aerial fertilisation, under the Birds & Habitats Directives (transposed under S.I.477/2011), the Forest Service, as a consenting authority, undertakes Appropriate Assessment screening to determine whether or not an Appropriate Assessment is required. Applications for afforestation and forest road construction are subject to EIA screening process including an assessment of the requirement for an EIS for sub-threshold developments.

Regarding NATURA sites (SACs and SPAs), the Forest Service operates an Appropriate Assessment Procedure (AAP) in relation to all forestry operations requiring its consent, i.e. afforestation, forest road construction, felling (thinning and clearfell/replanting) and aerial fertilisation. Under the AAP, individual projects are screened to assess whether or not there is the possibility for a significant effect on a Natura site. Where the possibility is identified, or where uncertainty exists, the proponent of the plan is required to submit a Natura Impact Statement and the Forest Service undertakes the appropriate assessment. The appropriate assessment is undertaken to assess the nature of possible impacts, and the effectiveness of any mitigation measures proposed. A project can only receive approval if the Forest Service has determined that it will not significantly affect the Natura site. Full details on how the Forest Service AAP operates are set out in the Forest Service Appropriate Assessment Procedure Information Note (consolidated version March 2013) http://www.agriculture.gov.ie/media/migration/forestry/publications/ForestServiceAAPInformationNoteMarch12CONSOLIDATED060312.pdf3.

Forest Service Circular 10/2010 'Changes to Afforestation Grant & Premium Schemes 2011' introduced restrictions on the afforestation of unenclosed/unimproved land, typically comprising upland sites and peat sites. Under the circular, "The amount of unenclosed land in any application for financial approval cannot exceed 20% of the total area." Furthermore, Circular 18/2011 'Land Types' describes land types eligible for grant and premium categories under the afforestation schemes. This circular lists specific land types not eligible for grant aid on silvicultural or environmental grounds. This includes:

- infertile blanket and midland raised bogs;
- unmodified raised bogs;
- designated blanket and raised bogs, and
- plots with rock outcrop and associated shallow soils in excess of 25% of the plot area.

In addition, under Circular 18/2011, very poor sites where a standard application of phosphorus fertiliser (e.g. 350 kg/ha GRP) at the time of establishment is unlikely to provide sufficient phosphorus input to bring the forest to full rotation, are also deemed ineligibleForest Service continues to implement the surface water acid sensitivity protocol for afforestation, jointly developed with the Environmental Protection Agency (EPA) and the then-National Council for Forest Research & Development (COFORD) in 2002. Under the protocol, afforestation applications within designated acid sensitive areas, as demarcated by specific OS Map numbers, must be accompanied by water sampling to determine the acid sensitivity of surface water. Approximately 600,000 ha (representing 9% of the total land area) are formally designated as acid-sensitive areas for the purposes of afforestation. These areas are predominantly located in Counties Wicklow, Kerry, Galway and Donegal. This protocol was amended in 2013, with agreement from the EPA, to allow the Forest Service to accept, process and approve (where appropriate) applications under the Native Woodland Scheme Establishment for sites within acid sensitive areas (ASAs), without the requirement for water sampling and is limited to applications wholly comprising enclosed / improved land (Circular 4/2013).

Under the current legislative system, a dual consent process exists for certain forest activities within Natural Heritage Areas, in that they require the consent of the Minister for Arts, Heritage and the Gaeltacht and the Minister for Agriculture, Food and the Marine.

At all times during proposed afforestation operations the terms of the Forestry and Archaeology Guidelines should be adhered to.

X TRANSFER OF BORD NA MONA LANDS TO THE STATE FOR CONSERVATION PURPOSES

Transfer of Bord na Móna lands to the State for Conservation Purposes

(a) Pre 1990 transferred to State	
SITE	Ha
Pollardstown **FEN** (Kildare)	28
Raheenmore **RAISED BOG** (Offaly)	162
Redwood **RAISED BOG** (Tipperary)	162
Clara **RAISED BOG** (Offaly)	464
Garriskill **RAISED BOG** (Westmeath)	112
Sheskin/Knockmoyle **BLANKET BOG** (Mayo)	468
Lough Easky East **BLANKET BOG** (Sligo)	607
Total	**2003**
(b) Pre 1990 transferred to An Taisce	
Bellacorick Iron Flush **FEN** (Mayo)	8
Mongan Bog & Finlough **RAISED BOG** (Offaly)	144
Total	**152**
(c) Pre 1990 transferred to Irish Wildlife Federation	
Lough Boora (Offaly)	14
Total (a), (b) & (c) transferred pre 1990	**2169**

1990 Package of Sites Agreed with NPWS (OPW/Dept of Finance)	
SITE	Ha
All Saints **RAISED BOG** (Offaly)	112
Ballinagare **RAISED BOG** (Roscommon)	580
Carrowbehy **RAISED BOG** (Roscommon)	225
Lough Lurgeen **RAISED BOG** (Galway)	31
Treen **RAISED BOG** (Roscommon)	57
Camderry/Bogauns **RAISED BOG** (Galway)	45
Clooncullann/Funshin **RAISED BOG** (Galway)	118
Lisnageeragh/Keelogues **RAISED BOG** (Galway)	186
Lough Easky West **BLANKET BOG** (Sligo)	597
Curraghlehanagh/Milltown **RAISED BOG** (Galway)	160
Shankill West **RAISED BOG** (Galway)	120
Corbo **RAISED BOG** (Roscommon)	154
Glynwood (Crosswood) **RAISED BOG** (Westmeath)	33
Castlefrench East **RAISED BOG** (Galway)	35
Cloonkeerin **RAISED BOG** (Roscommon)	49
Kilsallagh **RAISED BOG** (Galway)	12
Moorfield **RAISED BOG** (Roscommon)	25
Moyclare **RAISED BOG** (Offaly)	76
Carrownagappall (Springlawn) **RAISED BOG** (Galway)	200
Total	**2795**

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