

# National Biodiversity Action Plan | 2017-2021



An Roinn  
Cultúir, Oidhreacht agus Gaeltachta  
Department of  
Culture, Heritage and the Gaeltacht

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## Ireland's Vision for Biodiversity

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That biodiversity and ecosystems in Ireland are conserved and restored, delivering benefits essential for all sectors of society and that Ireland contributes to efforts to halt the loss of biodiversity and the degradation of ecosystems in the EU and globally.

# Minister's foreword



The term “biodiversity” is useful shorthand for all the life forms on earth – from the great whales to the tiniest plankton, from towering trees to the microscopic fungi in the soil that help these trees get the nutrition they need to live and to grow. Biodiversity is the sum of the millions of species and habitats on our planet working together to generate and sustain life as we know it.

In Ireland we are fortunate to be surrounded by an abundance of nature. It supports our livelihoods and enriches our lives, and there is a close and enduring cultural bond between the people of this island and the wildlife and habitats we share it with. Though an increasing number of us now live in cities, towns and suburbs, nature is often still close by and many of us are lucky enough to have the opportunity to engage with it on a daily basis. That engagement takes many forms: it can be the farmer who depends on biodiversity to rear livestock or grow crops, fishermen navigating our coastal waters, or families taking a stroll through urban green spaces where nature continues to adapt and live in the heart of our cities.

The new National Biodiversity Action Plan for 2017-2021 demonstrates Ireland’s continuing commitment to meeting and acting on its obligations to protect our biodiversity for the benefit of future generations through a series of targeted strategies and actions. It is a concrete effort on the part of those at the forefront of protecting biodiversity in Ireland to clearly identify the challenges we face, to lay out the actions we will take and, moreover, to hold ourselves to a wide range of forward looking and ambitious commitments at local, regional and national level.

It is, of course, only right that we are ambitious in our targets with this Plan. Future generations deserve at least our ambition: that they should have as a birth right a world where the building blocks of life provided in nature continue not only to exist but flourish and guarantee that life on our planet will continue to thrive. This is the focus of protecting biodiversity.

It is not an easy task, but we should not retreat from it because it is not easy. In the short term it compels us to focus on achievement and in the longer term drives us to find new ways to find a sustained and sustainable balance between our modern human existence and the natural world that allows that very existence.

The targets set in this plan are in the context of the seven strategic objectives retained from the second National Biodiversity Plan, which ran from 2011 – 2016. These objectives have laid out a clear framework for our national approach to biodiversity and continuing to focus on these pillars will ensure that we build on the efforts and achievements of the past five years while looking ahead to what we can achieve over the next five years.

Key biodiversity programmes and projects, commenced under the second Plan, will continue to be implemented by a range of government departments and agencies, environmental bodies and stakeholders. For example, in 2016 I commissioned a national survey of breeding Curlew. This survey, with significant input from my Department’s National Parks and Wildlife Service as well as Birdwatch Ireland, and the general public, led to establishment of a Curlew Taskforce to reverse the decline of the Curlew as a breeding species in Ireland. This Taskforce brings together experts and decision makers to undertake further positive actions for the Curlew.



Continued awareness of biodiversity and its importance to our lives is crucial. Having the National Biodiversity Action Plan as the foundation of our biodiversity policy demonstrates the on-going efforts to raise awareness and encourage positive engagement with Ireland's habitats and species. It promotes the importance of the wide range of ecosystems, habitats and species to society as a whole through the concepts of natural accounting and an increased recognition of the value of ecosystem services. The Plan also brings into focus the many interconnected interests and activities in our local areas and the wider world that can help benefit biodiversity and in turn society as a whole.

The objective to bring biodiversity into the mainstream of policy and decision-making is a cornerstone of this new Plan. At this juncture, the importance of biodiversity can no longer be considered a niche concern. Biodiversity awareness is a central element in wider efforts to combat loss of habitats and species across the planet and to combat the potentially devastating effects of climate change.

This National Plan includes a number of important all-island initiatives that reflect a shared focus on biodiversity. The Plan envisages enhanced cooperation with our colleagues in Northern Ireland wherever possible on common issues. I am confident that the excellent relationships that exist between our authorities will continue to benefit communities and wildlife throughout the island.

This is a national plan and its success depends greatly on the endeavours of several departments, agencies and organisations across various sectors of Irish society. With this in mind, I would like to acknowledge the cooperation and support of colleagues across government and the wide range of State bodies, local authorities and communities across the country that play a crucial role in protecting our biodiversity and raising awareness at national, regional and grassroots level of the importance of conserving our habitats and species.

It is in the interests of every citizen to be aware of the centrality of biodiversity in our everyday lives and the range of benefits we obtain not only from ecosystem services but from the intrinsic good of our environment and its amenities. It is our responsibility to be aware of biodiversity and to take whatever steps we can to help protect and conserve it for the generations that follow.

It is my sincere belief that this new Plan will strengthen and support our endeavours, and our resolve, to protect biodiversity and to bring it into the mainstream of our daily lives. I am optimistic that its implementation over the next five years by the range of stakeholders, across the public, private and civil sectors of Irish society, and in cooperation with our colleagues across the EU and in the CBD (Convention on Biological Diversity), will see us come together in celebrating many success stories and achievements. Biodiversity benefits us all and to continue to enjoy those benefits we must continue to engage with each other, working together to secure, protect and conserve the vital building blocks of life that it provides.

**Heather Humphreys T.D.**  
**Minister for Culture, Heritage and the Gaeltacht**

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# Introduction

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# Overview of objectives and targets

1

OBJECTIVE

## Mainstream biodiversity into decision-making across all sectors

Target 1.1. Shared responsibility for the conservation of biodiversity and the sustainable use of its components is fully recognised, and acted upon, by all sectors

Target 1.2. Strengthened legislation in support of tackling biodiversity loss in Ireland

2

OBJECTIVE

## Strengthen the knowledge base for conservation, management and sustainable use of biodiversity

Target 2.1. Knowledge of biodiversity and ecosystem services has substantially advanced our ability to ensure conservation, effective management, and sustainable use by 2021

3

OBJECTIVE

## Increase awareness and appreciation of biodiversity and ecosystems services

Target 3.1 Enhanced appreciation of the value of biodiversity and ecosystem services amongst policy makers, businesses, stakeholders, local communities, and the general public

4

OBJECTIVE

## Conserve and restore biodiversity and ecosystem services in the wider countryside

Target 4.1. Optimised opportunities under agriculture and rural development, forestry and other relevant policies to benefit biodiversity

Target 4.2. Principal pollutant pressures on terrestrial and freshwater biodiversity substantially reduced by 2020

Target 4.3. Optimised benefits for biodiversity in Flood Risk Management Planning and drainage schemes

Target 4.4. Harmful invasive alien species are controlled and there is reduced risk of introduction and/or spread of new species

Target 4.5. Improved enforcement of wildlife law



# 5

## OBJECTIVE

### **Conserve and restore biodiversity and ecosystem services in the marine environment**

Target 5.1. Progress made towards good ecological and environmental status of marine waters over the lifetime of this Plan

Target 5.2. Fish stock levels maintained or restored to levels that can produce maximum sustainable yield, where possible, no later than 2020

# 6

## OBJECTIVE

### **Expand and improve management of protected areas and species**

Target 6.1. Natura 2000 network designated and under effective conservation management by 2020

Target 6.2. Sufficiency, coherence, connectivity, and resilience of the protected areas network substantially enhanced by 2020

Target 6.3. No protected species in worsening status by 2020; majority of species in, or moving towards, favourable status by 2021

# 7

## OBJECTIVE

### **Strengthen international governance for biodiversity and ecosystem services**

Target 7.1. Strengthened support for biodiversity and ecosystem services in external assistance

Target 7.2. Enhanced contribution to international governance for biodiversity and ecosystem services

Target 7.3. Enhanced cooperation with Northern Ireland on common issues

Target 7.4. Reduction in the impact of Irish trade on global biodiversity and ecosystem services

## IRELAND'S VISION FOR BIODIVERSITY

Ireland's Vision for Biodiversity is: "That biodiversity and ecosystems in Ireland are conserved and restored, delivering benefits essential for all sectors of society and that Ireland contributes to efforts to halt the loss of biodiversity and the degradation of ecosystems in the EU and globally."

In simple terms "biodiversity" includes all life on Earth. As defined by the United Nations Convention on Biological Diversity (CBD), "biological diversity" means the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes genetic diversity within species, between species and of ecosystems. Humans rely on biodiversity for our health and well-being and to support many of our economic activities. Biodiversity plays a key role in the functioning of ecosystems and their continuing ability to provide "ecosystem services". Biodiversity provides us with, for example, clean air, water, food, fuel, medicines, recreation, spiritual enrichment and protects us from extreme weather. It supports pollination and soil fertility, and regulates our climate.

Globally, biodiversity is declining and despite increased awareness and efforts to halt its loss, biodiversity remains threatened by human activities worldwide<sup>1</sup>. Major causes of global biodiversity loss include overexploitation of wild species<sup>2</sup> and conversion of land to agricultural use<sup>3</sup>. Loss of biodiversity worldwide led to the wide acceptance of the need to coordinate action for biodiversity on a global scale. In 1992 the CBD was established and Ireland ratified the Convention in 1996<sup>4</sup>. The objectives of the CBD are "the conservation of biological diversity, the sustainable use of its components

and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources". Toward this end the CBD has identified in its Strategic Plan five Strategic Goals and 20 Aichi Biodiversity Targets<sup>5</sup> (see Appendix IV). In addition, the CBD requires each Contracting Party to develop national strategies and action plans for the conservation and sustainable use of biodiversity.

This National Biodiversity Action Plan (NBAP), the third such plan for Ireland, captures the objectives, targets and actions for biodiversity that will be undertaken by a wide range of government, civil society and private sectors to achieve Ireland's Vision for Biodiversity. This NBAP provides a framework to track and assess progress towards Ireland's Vision for Biodiversity over a five-year timeframe from 2017 to 2021. To achieve the Vision, seven strategic objectives were identified in the second National Biodiversity Action Plan "Actions for Biodiversity 2011-2016"<sup>6</sup>. The continued implementation of these objectives (Figure 1 opposite) has been retained for this new Plan. Actions required to achieve the strategic objectives as well as the lead and key partners responsible for their implementation are set out in the updated Table of Actions.





**1**  
OBJECTIVE  
Mainstream biodiversity into the decision making process across all sectors

**7**  
OBJECTIVE  
Strengthen international governance for biodiversity & ecosystem services

**2**  
OBJECTIVE  
Strengthen the knowledge base for conservation, management & sustainable use of biodiversity

**6**  
OBJECTIVE  
Expand & improve on the management of protected areas & species

**3**  
OBJECTIVE  
Increase awareness & appreciation of biodiversity & ecosystems services

**5**  
OBJECTIVE  
Conserve & restore biodiversity & ecosystem services in the marine environment

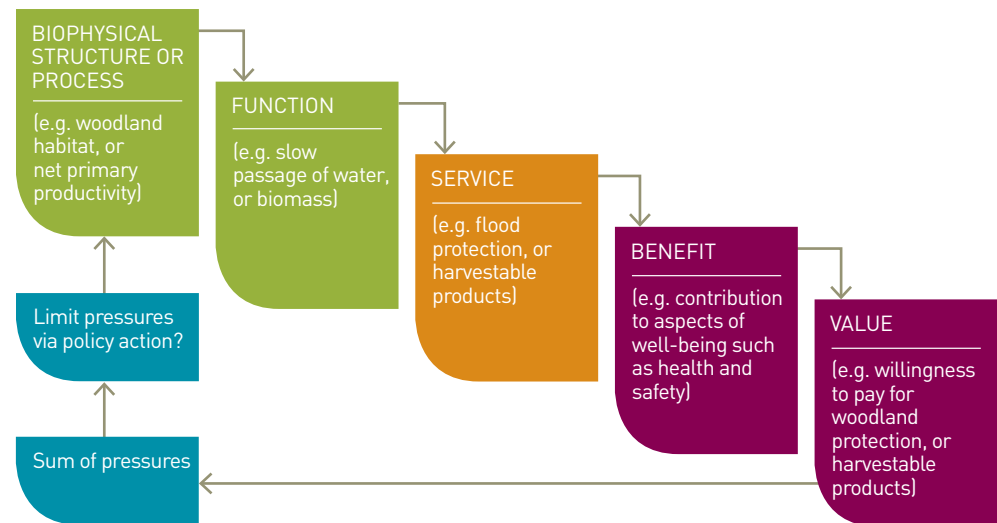
**4**  
OBJECTIVE  
Conserve & restore biodiversity & ecosystem services in the wider countryside

FIGURE 1. OBJECTIVES OF IRELAND'S NATIONAL BIODIVERSITY ACTION PLAN

## IRELAND'S BIODIVERSITY AND ECOSYSTEM SERVICES

Ireland has a rich diversity of ecosystems and wildlife in its terrestrial, freshwater and marine environments. Ireland's natural habitats have evolved over millions of years and support globally important populations of birds, fish, mammals, invertebrates, plants and fungi. The marine habitats surrounding our island are home to whales, dolphins, vast colonies of seabirds, abundant fish and cold-water coral reefs, as well as rich algal and invertebrate communities. On land, there is a wealth of species in our mountains, peatlands, turloughs, woodlands, grasslands, lakes, rivers, and coastal habitats. Over 31,000 species have been recorded in Ireland and its surrounding seas and many more have yet to be discovered<sup>7</sup>.

For many years, we have sought to conserve nature for its own sake, purely for moral and ethical reasons. This rationale remains as valid and relevant as ever. More recently, additional arguments for nature conservation have emerged, based on the social, cultural and economic value of biodiversity and the benefits or "ecosystem services" it provides to society (Figure 2). An example of an ecosystem service provided to the agriculture sector in Ireland is nutrient cycling by soil organisms. This service is estimated to be worth €1 billion each year<sup>8</sup>. Recognising that biodiversity provides numerous valuable but previously unvalued ecosystem services, the economic value of which is only now being recognised, further compels us to protect our biodiversity from unsustainable exploitation.



**FIGURE 2**  
THE RELATIONSHIP BETWEEN BIODIVERSITY, ECOSYSTEM FUNCTION AND HUMAN WELL-BEING<sup>9</sup>

At the UN Sustainable Development Summit in 2015, Ireland played an important role in negotiating 17 Sustainable Development Goals (SDGs) and 169 Targets to promote sustainable use of Earth's natural resources and to protect the planet from degradation<sup>10</sup>. Through sustainable management of healthy ecosystems and the many species that function within them, we hope to continue to benefit from a wide range of ecosystem services. Biodiversity is a vital asset essential to human existence and governments and the private sector increasingly recognise its intrinsic and economic value as part of the decision-making process.



In recent decades, human impacts on biodiversity in Ireland and across the planet have accelerated and resulted in increased damage to habitats, loss of species, reduced abundance of wildlife and degradation of our environment (air, water and soils)<sup>1,11</sup>. If we, the current generation, continue to unsustainably exploit our nation's and our planet's natural resources, damage our natural habitats, drive species to extinction and pollute our seas, freshwater and soils, future generations will inherit a diminished and degraded environment unfit to support them and provide them with a wide range of benefits to society and the economy.

Many of Ireland's economic sectors (particularly tourism and food production) depend on high quality air, soils, water, and diverse habitats. However, these industries can only be sustainable if the natural assets on which they are based are protected from degradation. This is particularly true for initiatives such as Ireland's "Wild Atlantic Way", which markets the western seaboard as a nature, wildlife, and cultural heritage destination (Figure 3). However, there are many other less obvious ways in which nature sustains us, for example, contributing to our heritage, health, well-being, enjoyment and national identity.



◀ Wild Atlantic Way (Ciaran O'Keefe)



**FIGURE 3**  
SIGNIFICANT PARTS OF THE IRISH ECONOMY, INCLUDING TOURISM AND FOOD PRODUCTION FROM LAND AND SEA, RELY ON BIODIVERSITY AND THE SERVICES IT PROVIDES. ENSURING SUSTAINABLE MANAGEMENT OF BIODIVERSITY IS IN THEIR LONG-TERM INTERESTS

Biodiversity, ecosystem services and the economic, social, cultural and societal benefits they provide are vital to Ireland's continued economic recovery and healthy and sustainable future (Table 1). Ireland's plan for infrastructure and capital investment 2016-2021<sup>12</sup> acknowledges the role of our natural heritage for economic growth, highlighting investments in the rehabilitation of peatlands. In addition to investment in physical infrastructure, investing directly in biodiversity through protection and rehabilitation of habitats is fundamental for sustaining and improving the benefits we get from nature. This NBAP identifies key actions for sustaining and improving the condition of biodiversity, and consequently its ecosystem services, on our land and in our seas and freshwaters.

**TABLE 1. EXAMPLES FROM IRELAND OF ECOSYSTEM SERVICES AND VALUATION**

In 2015, revenue from overseas tourism amounted to €6 billion<sup>13</sup>. Ireland's natural, unspoilt environment was cited by 86% of visitors surveyed in 2015 as an important reason for visiting Ireland<sup>14</sup>.

A survey conducted in 2015 revealed that recreational angling in Ireland contributes €836 million to the Irish economy every year and over 11,000 Irish jobs are supported as a result of angling, often in rural communities<sup>15</sup>.

Fisheries, aquaculture, seafood processing and the emerging biotechnology and bio-products contributed over €800 million to Ireland's ocean economy in 2012<sup>12</sup>.

A 2016 pilot project to map and assess ecosystem services nationally, illustrated the multiple benefits provided by a range of ecosystems across the country<sup>16</sup>.



Marine ecotourism encounter with Bottlenose dolphins (Oliver Ó Cadhla) ↗

## POLICY AND REGULATORY BACKGROUND

The Wildlife Act, 1976 is the principal national legislation providing for the protection of wildlife in Ireland. The Act provides for, *inter alia*, the designation of Statutory Nature Reserves, Refuges for Fauna and Wildfowl Sanctuaries, and the protection of listed species of plants and animals. Under the Wildlife (Amendment) Act, 2000, the legislative basis for biodiversity conservation was strengthened by improvements to existing measures and the introduction of some new measures. The Act gives statutory protection for the designation of national areas of high biodiversity: Natural Heritage Areas (NHAs). Compliance with international agreements has been strengthened, including the Convention on International Trade in Endangered Species (CITES) and the African-Eurasian Migratory Waterbirds Agreement (AEWA). The Act also gives statutory recognition to the Government's responsibilities with regard to promoting the conservation of biological diversity, in light of Ireland's commitment to the Convention on Biological Diversity.

The EU Habitats Directive (Directive 92/43/EEC)<sup>17</sup> and the Birds Directive (Directive 79/409/EC)<sup>18</sup> form the cornerstone of Europe's nature conservation policy. They are built around two pillars: (i) the Natura 2000 network of protected sites (called Special Areas of Conservation in the Habitats Directive, and Special Protection Areas in the Birds Directive); and (ii) systems for the protection of species outside those protected areas. Both Directives include a requirement for periodic reporting on implementation. Article 17 of the Habitats Directive requires that Member States must undertake national assessments, on a 6-year cycle, of the conservation status of habitats and species protected under the Directive. The requirements for reporting under Article 12 of the Birds Directive were recently changed to 6 years and streamlined with reporting cycles under Article 17 of the Habitats Directive.

The two nature directives are transposed into Irish law by the European Communities Birds and Natural Habitats Regulations (2011).

The European Commission recently carried out a comprehensive evaluation of the Nature Directives, called a "Fitness Check". This Fitness Check has found that, as part of broader EU biodiversity policy, the Nature Directives are fit for purpose but that achieving their objectives and realising their full potential will depend upon substantially improving their implementation. Improvements are needed both in their effectiveness and efficiency and in working in partnership with different stakeholder communities in the Member States and across the EU to deliver practical results on the ground. The European Commission decided to develop a concrete action plan to improve the implementation of the Directives, their coherence with socio-economic objectives and engagement with national, regional and local authorities, stakeholders and citizens. The actions contained within the 2017 EU Action Plan for nature, people and the economy have been considered and integrated within the National Biodiversity Action Plan.

Protection for biodiversity is also considered as part of other EU Directives. The Marine Strategy Framework Directive (2008/56/EC)<sup>19</sup> aims to achieve Good Environmental Status (GES) by 2020. It contains the explicit regulatory objective that "biodiversity is maintained by 2020", as the cornerstone for achieving GES. The aim of the Water Framework Directive (2000/60/EC)<sup>20</sup> (WFD) is to establish a framework for the protection of all surface waters and groundwater with the aim to reach good status in all waters. Both the nature directives and the WFD aim at ensuring healthy aquatic ecosystems while at the same time ensuring a balance between water/nature protection and the sustainable use of nature's natural resources. The Nitrates Directive (91/676/EEC)<sup>21</sup>, which aims to protect water against pollution caused by nitrates from



agricultural sources, is the primary agricultural measure in place to support delivery of the WFD objectives.

The requirement for impact assessments under several EU Directives ensures that biodiversity is given due consideration for any proposed developments. The EU Habitats Directive places strict legal obligations on member states to ensure the protection, conservation and management of the habitats and species of conservation interest in all European Sites. Article 6 of the Directive obliges member states to undertake an 'appropriate assessment' (AA) for any plan or project which may have a likely significant effect on any European Site. The outcomes of such AAs fundamentally affect the decisions that may lawfully be made by competent national authorities in relation to the approval of plans or projects.

Environmental assessment can be undertaken for individual projects, such as a motorway, airport or factory, on the basis of the Environmental Impact Assessment Directive (2011/92/EU)<sup>22</sup> and/or for public plans or programmes on the basis of the Strategic Environmental Assessment Directive (2001/42/EC)<sup>23</sup>. 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.

The Environmental Liabilities Directive (2004/35/CE)<sup>24</sup> is based on the "polluter pays" principle to prevent and remedy environmental damage. The Directive defines "environmental damage" as damage to protected species and natural habitats, damage to water and damage to soil.

## THE STATE OF BIODIVERSITY IN IRELAND

There have been a number of assessments of the state of our biodiversity. To date, Ireland has undertaken Red List assessments of the threat of extinction of vascular plant, bryophyte and non-marine vertebrate taxa† plus the better-known invertebrate groups (Figure 4). Most are not considered threatened, but just over 14% of the taxa were assessed as under threat of extinction (including 30 species of bees<sup>25</sup>, European Eel, Arctic Char, and Natterjack Toad<sup>26</sup>).

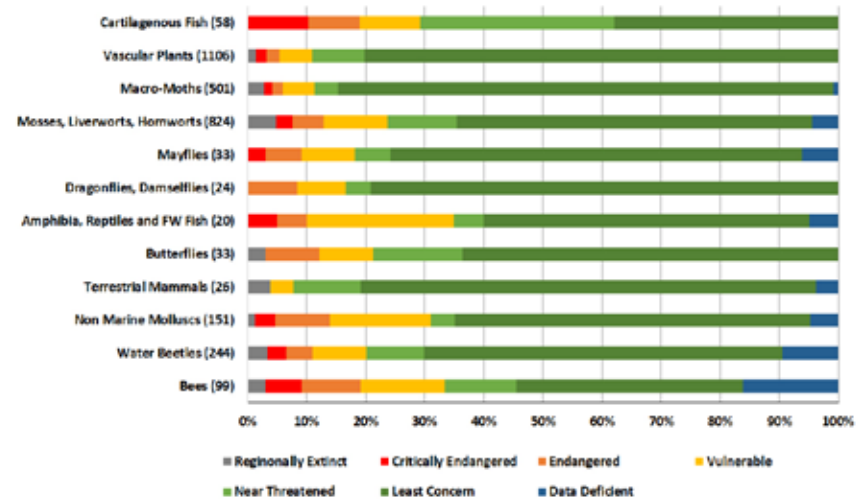


FIGURE 4  
PROPORTION OF TAXA IN EACH RED LIST CATEGORY FOR THE TAXONOMIC GROUPS THAT HAVE BEEN ASSESSED USING IUCN CRITERIA. THE TOTAL NUMBER OF TAXA ASSESSED IN EACH GROUP IS SHOWN IN BRACKETS. ONLY THOSE TAXA ASSESSED AS CRITICALLY ENDANGERED, ENDANGERED AND VULNERABLE ARE INCLUDED ON THE RED LIST.

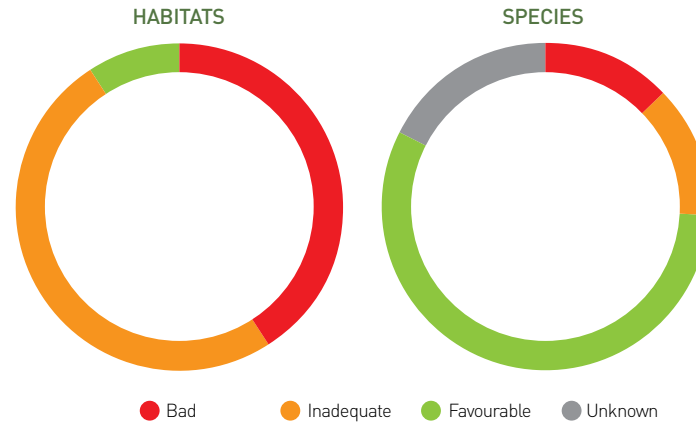
† includes species, subspecies, varieties and forms



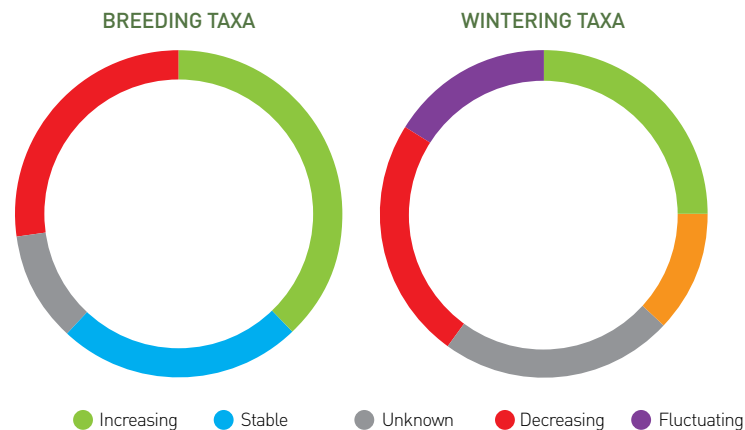
The most recent assessment of the status of EU protected habitats and species in Ireland in 2013 showed that 91% of the 58 habitats assessed have unfavourable conservation status. This is broken down as follows: 50% were 'Inadequate' and 41% were 'Bad' (Figure 5). Assessments that are unfavourable were assigned qualifiers to determine whether the status is improving, declining, stable, or unknown. Since 2007, nine habitats demonstrated a genuine improving trend, 18 habitats are considered to be declining, no change is reported for 28 habitats and an unknown trend reported for three habitats. Many of the coastal habitats and lakes are assessed as 'Inadequate', with ongoing declines. 'Inadequate' but improving trends are noted for some marine habitats. The status of several peatland and grassland habitats remains 'Bad', with ongoing declines. The conservation status of species was slightly more positive, although 20% of those assessed were reported as being 'Inadequate' and 12% as 'Bad' (Figure 5). Those species assessed as 'Bad' are Freshwater Pearl Mussel, Sea Lamprey, Twaiter Shad, Pollan, and Natterjack Toad<sup>27</sup>.

Ireland's reporting on the EU Birds Directive shows that the short-term (2001-2012) population trends of 38% of breeding bird taxa are increasing, that 24% are stable, 27% are decreasing and 11% are unknown (Figure 6). The trends are less clear for wintering bird taxa with short-term population trends of 25% of taxa increasing, 12% of taxa stable, 24% decreasing, 23% unknown, and 16% fluctuating (Figure 6). The 2013 assessment of the status of 185 regularly occurring bird species on the island of Ireland placed 37 species on the Birds of Conservation Concern in Ireland Red list, 90 on the Amber list and 58 on the Green list<sup>28</sup>. The number of Red-listed species had increased by 12 and Amber-listed species by five since the previous review in 2007.

The overall picture is that a significant proportion of Ireland's biodiversity is in a vulnerable state.



**FIGURE 5**  
PROPORTION OF EU PROTECTED HABITATS AND SPECIES IN IRELAND WITH 'BAD', 'INADEQUATE', 'FAVOURABLE', AND 'UNKNOWN' CONSERVATION STATUS, AS ASSESSED FOR IRELAND'S 2013 HABITATS DIRECTIVE ARTICLE 17 REPORT<sup>27</sup>



**FIGURE 6**  
PROPORTION OF IRELAND'S BIRD SPECIES REPORTED AS HAVING INCREASING, STABLE, UNKNOWN, DECREASING, OR FLUCTUATING POPULATION TRENDS IN IRELAND'S 2012 BIRDS DIRECTIVE ARTICLE 12 REPORT.







## PRESSURES ON IRELAND'S BIODIVERSITY AND ECOSYSTEM SERVICES

The main threats and pressures reported on EU protected habitats and species in Ireland are from agriculture, forestry and fisheries, natural system modifications (including drainage), mining and quarrying (including peat extraction), climate change, pollution, and invasive and problematic species<sup>27</sup>. Habitat loss is also recognised as an ongoing pressure.



2015 storm damage Galway (Karen Gaynor) ↻

Without substantial action to change current trends there will be no significant decrease in these pressures over the next decade. Indeed, several pressures including climate change, agricultural system changes and invasive species, are likely to increase if action is not taken now. The main threats and pressures reported for EU protected habitats and species in Ireland are also likely to be the major pressures on species and habitats in the wider natural, urban and marine environments.

In Ireland, pressures associated with agriculture have had major impacts on land-based habitats and species, with over 70% of the number of habitats of EU interest reported to be negatively impacted by agriculture<sup>27</sup>. Ecologically unsuitable grazing regimes and abandonment<sup>27</sup> are the main pressures reported. In addition, the breeding distributions of bird species that are associated with farmland, such as the Curlew, Lapwing and Yellowhammer have declined substantially over recent decades, with Curlew on the brink of extinction according to survey work in 2015 and 2016.

Pollution, mainly as a result of agricultural or forestry-related activities and household sewage systems, was cited as one of the main threats to habitats of EU interest (for example estuaries, coastal lagoons, and turloughs) and was the most frequent threat to species of EU interest<sup>27</sup>. Elevated nutrient concentrations (phosphorus and nitrogen) continue to be the most widespread water quality problem in Ireland arising primarily from human activities such as agriculture and waste water discharges to water from human settlements<sup>29</sup>. *Ireland's Environment – An Assessment 2016*<sup>29</sup> reports

that there has been no improvement in river water quality or transitional and coastal water quality over the past six years.

There is evidence that climate change is negatively impacting Irish habitats, especially coastal and upland habitats<sup>30</sup> as well as a suite of species<sup>31, 32, 33, 34</sup>, and is driving ocean acidification<sup>35</sup>. Climate change models indicate that degraded upland habitats, in particular, will become less resilient to the impacts of climate change in the immediate future<sup>36</sup>. Expected increases in temperature, changes in precipitation patterns, weather extremes (storms and flooding, sea surges, flash floods) and sea-level rise will affect the abundance and distribution of Irish species and possibly encourage the spread of alien invasive species. For example, the flight periods, number of generations per year, and abundances of Irish butterflies will change, as well as the timing of bud burst in Irish tree species with subsequent effects on insects and the birds which feed on them.

The occurrence and spread of invasive and non-native species in Ireland is increasing for all environments<sup>37</sup>. Invasive species, such as the Zebra Mussel, Grey Squirrel and Pacific Oyster, may displace native species and considerably alter biodiversity, and subsequently, ecosystem processes and services. To date, the majority of invasive species in Ireland have been plants (including Hottentot Fig, Giant Rhubarb, and Giant Hogweed) but the future trend may be towards invertebrates and vertebrate species comprising a greater percentage of new arrivals<sup>37, 38</sup>. The direct annual cost of invasive species to Ireland's economy was estimated in 2013 to be over €200 million<sup>39</sup>, but with an increase in introductions and impact there may also be an increase in economic cost.



Grey squirrel invasive alien species (Lorcan Scott) 

## KEY PARTNERS

There is a broad range of organisations involved in biodiversity conservation, from central Government Departments, State agencies and Local Authorities, to the research community, national and local NGOs, and local communities and individuals.

Responsibility for biodiversity is now vested in the Minister for Culture, Heritage and the Gaeltacht. This includes the enforcement of wildlife legislation, designation and protection of Natura 2000 sites (Special Areas of Conservation and Special Protected Areas), management of State-owned National Parks and Statutory Nature Reserves, scientific research and monitoring programmes, preparation of species action plans, etc.

The Department of Housing, Planning and Local Government and the Department of Communications, Climate Action and Environment have responsibility for environmental issues such as planning and development, water quality, renewable energy, and climate change. The Department of Agriculture, Food and the Marine is responsible for policies and funding programmes in the areas of agriculture, food, fisheries, forestry, and rural environment. A number of other Departments have responsibility for, or involvement in, issues that crossover with biodiversity concerns, e.g. An Garda Síochána and Customs are involved in enforcement of certain key legislation in the area of illegal trade and importation.

State bodies with a role in biodiversity conservation include the Environmental Protection Agency, Marine Institute, Inland Fisheries Ireland, Teagasc, the Heritage Council Waterways Ireland, Coillte, and the Office of Public Works (which includes the National Botanic Gardens).

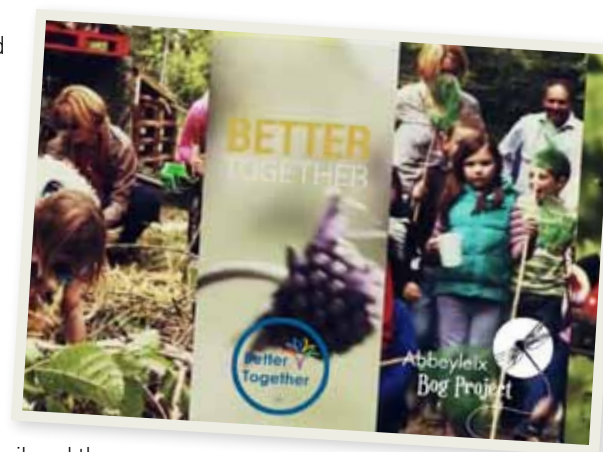
Local Authorities play a key role in biodiversity conservation through the planning system, the wide range of environmental services they provide, the network of biodiversity and heritage officers and the Local Authority Water and Communities Office and their implementation of plans and programmes.

Landowners, farmers, and local communities are in many aspects the most important players in biodiversity issues. Their representative organisations include the Irish Farmers Association, Irish Creamery Milk Suppliers Association, Macra, Irish Natura Hill Farmers Association, Irish Cattle and Sheep Farmers' Association, Irish Rural Link, and the Irish Landowners' Organisation, South East Cork Area Development, Dublin Bay Biosphere Partnership.

Universities and Institutes of Technology are centres of research and training in the field of biodiversity. Alignment of research needs with outputs will be updated through the National Platform for Biodiversity Research.

A wide range of national NGOs are involved in the area of biodiversity including An Taisce, Birdwatch Ireland, the Irish Whale and Dolphin Group, Bat Conservation Ireland, the Irish Peatland Conservation Council, and the Irish Wildlife Trust. Many local organisations and groups also carry out important biodiversity related work.

The National Biodiversity Data Centre was established by the Heritage Council in 2007 and is funded by the Heritage Council and the Department of Culture, Heritage and the Gaeltacht. The Data Centre collates, manages, analyses and disseminates data on Ireland's biodiversity.









## FUNDING FOR BIODIVERSITY CONSERVATION

Funding for biodiversity is allocated from different sources and in various ways. Dedicated funding for biodiversity is provided under the annual Exchequer allocation to relevant Government Departments. State bodies with a biodiversity role also receive Exchequer funding or grants. Local Authorities avail of financial support from State bodies such as the Heritage Council for biodiversity-related projects and the Heritage Officer and Biodiversity Officer programmes. Funding for biodiversity research is delivered via a number of organisations including the EPA, Marine Institute and NPWS (National Parks and Wildlife Service). The EU funds scientific research, currently through the Horizon 2020 programme.

The Multi-Annual Financial Framework for the EU 2014-2020 is divided into six categories of expense corresponding to different areas of EU activities. One of these is Sustainable Growth: Natural Resources and includes the common agricultural policy, common fisheries policy, rural development, and environmental measures. It is envisaged that funding for biodiversity will be delivered primarily via the main funding instruments (e.g. the reformed CAP). The integrated model for co-financing biodiversity and Natura 2000, as introduced in the 2007-2013 financing framework, will continue. The 2017 EU *Action Plan for nature, people and the economy*<sup>40</sup> includes actions to improve synergies with funding streams including effective use of Natura 2000 payments.

EU LIFE, the EU's financial instrument supporting environmental and nature conservation projects, has co-funded many projects in Ireland, but it is still considered that Ireland under-uses this funding opportunity. There is a proposed 10% increase in the LIFE budget dedicated to projects supporting the conservation of nature and biodiversity.

The INTERREG Programme, designed to promote greater levels of cross-border co-operation, continues to provide funding for biodiversity management actions. The European Commission is in the process of developing a methodology to track biodiversity related expenditure in the EU budget, similar to the one being developed for climate related expenditure. The EU has committed under the CBD to contribute to the doubling of total biodiversity related financial resource flows to developing countries by 2015, and at least to maintain this level until 2020, and to mobilize domestic financial resources from all sources to reduce the gap between identified needs and available resources at domestic level<sup>41</sup>. This requires mainstreaming biodiversity concerns throughout the EU budget.

UCD, with support from NPWS and the IRC are tracking biodiversity related expenditure for Ireland. This is the first step in understanding and developing a sustainable funding mechanism for biodiversity conservation. Further to this, NPWS will develop a financial plan to address biodiversity finance challenges in a comprehensive manner and build a sound business case for increased investment in biodiversity management. As part of this research novel finance mechanisms will also be reviewed, including payment for ecosystem services and biodiversity offsets.



## COLLECTIVE ACTION FOR BIODIVERSITY

In 2002, Ireland published its first National Biodiversity Action Plan (2002-2006)<sup>42</sup> as the main vehicle for meeting commitments under the Convention on Biological Diversity (CBD) and EU Biodiversity Strategy. The overall objective of the first Plan was to secure the conservation, including where possible the enhancement, and sustainable use of biological diversity in Ireland. Ireland's second National Biodiversity Action Plan, "Actions for 2011-2016"<sup>6</sup>, was launched in November 2011 and built upon the achievements of the first Plan. It focused on actions that were not fully completed and addressed emerging issues. Key achievements for the period of the second Plan include:

- The work of the Irish Forum on Natural Capital;
- The improved transposition of the EU Habitats Directive and the EU Birds Directive into national legislation in the European Communities (Birds and Natural Habitats) Regulations 2011;
- Ongoing development, improved targeting and delivery of agri-environment measures through the Rural Development Programme (RDP)<sup>43</sup>;
- The introduction of the European Communities (Environmental Impact Assessment)(Agriculture) Regulation (S.I.456/11) by the Department of Agriculture, Food and the Marine (DAFM);
- The publication of an Integrated Maritime Plan (IMP) entitled "Harnessing Our Ocean Wealth"<sup>44</sup>;
- Considerable progress in protecting the best remaining examples of raised bogs in Ireland. The publication and implementation of the National Peatland Strategy<sup>45</sup>; and draft National Raised Bog SAC Management Plan<sup>46</sup>;

- The commencement of six EU LIFE projects (AranLIFE farming project; Burren GeoparkLIFE; KerryLIFE Freshwater Pearl Mussel conservation project; RaptorLIFE project focusing on connecting and restoring habitats for Hen Harrier, Merlin, Atlantic Salmon and Brook Lamprey; Irish LIFE Raised Bog Restoration project; and WISER LIFE project involved with developing best practice for waste reuse and preparation for reuse);
- The continued success of the Burren Farming for Conservation programme;
- A range of collaborative species conservation programmes including Corncrake, Grey partridge, Natterjack toad, Red Grouse, Roseate Tern;
- The development of the Irish Vegetation Classification by BEC Consultants, hosted by the National Biodiversity Data Centre in collaboration with the NPWS<sup>47</sup>;
- Over 1,700 participants attending 120 biodiversity workshops organised by the National Biodiversity Data Centre.



⬆ Drain blocking on Raised bog (Maurice Eakin)

This, the third Plan, builds on the momentum of the first two Plans and continues to move us towards our Vision for Biodiversity.

The starting point for the development of the third Plan was the interim review of the second Plan<sup>48</sup>. The interim review showed that while some significant progress has been made, there are still areas where increased efforts will be required to meet its targets and objectives<sup>48</sup>. The review concluded that of the 102 Actions, 24 were implemented, 67 were ongoing and 11 required substantial further action. Forty of the 102 actions are of an ongoing or open-ended nature. Most actions that were identified as ongoing or requiring further action were retained in the third Plan. These actions were reviewed for relevance and their content and timelines updated accordingly. Responsible lead and key partners were assigned to each action. Actions were subsequently examined against Ireland's Vision for Biodiversity and new actions added where necessary. All of the actions are collated together in the Table of Actions.

## CONSULTATION AND OVERSIGHT

The consultation process for Ireland's National Biodiversity Plan 2017-2021 was a two-stage process consisting of a) consultation with the Biodiversity Working Group and Biodiversity Forum in initial scoping, development, and drafting of the Plan, and b) publication of the draft Plan on the NPWS website and open invitation for views from the public. A summary of the responses to the consultation process is available on npws.ie.

## MONITORING AND EVALUATING THE IMPLEMENTATION OF THIS NBAP

The Department of Culture, Heritage and the Gaeltacht (DCHG) is the official body responsible for oversight of the implementation of this Plan and for coordinating the other Public Authorities, eNGOs and private sector organisations involved in the process.

The Biodiversity Working Group (BWG) comprises Departments, Agencies and other bodies that have a role in implementing the Plan. The BWG will deliver an interim review of implementation in 2019. The review will quantify the success of implementation of the Plan based on indicators. Suggested indicators for each action are presented in the Table of Actions. These indicators provide an important source of evidence for the public and decision makers on the state, pressures, and conservation actions relating to Ireland's biodiversity. The indicators also facilitate reporting on Ireland's progress towards attaining national, European and global biodiversity targets and Sustainable Development Goals.

The Biodiversity Forum represents various economic sectors, NGOs, academics other relevant stakeholders. The Forum will monitor the implementation of the Plan and advise the Minister accordingly.





# Table of actions

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Each of the seven objectives of the Plan is prefaced with explanatory text and also a cross reference to the relevant Aichi Biodiversity targets and Sustainable Development Goals. Each objective also has a number of targets which group a set of related actions. For each action there is a specified timeframe, lead (in bold) and key partners who have responsibility for implementation, and performance indicators so that achievement of the actions can be tracked. A list of lead and key partners can be found in Appendix I.



# 1

## OBJECTIVE

### Mainstream biodiversity into decision-making across all sectors

The Convention on Biological Diversity's Cancun Declaration<sup>49</sup> (CBD, 2016) focuses on the need for governments at the national, regional and local levels to mainstream the conservation and sustainable use of biodiversity for human well-being. This can be achieved through sectoral and cross-sectoral policies, plans and programs, to establish an effective institutional, legislative and regulatory framework that incorporates an approach that is inclusive.

The first strategic objective of this Plan is to strengthen the mainstreaming process. It is important that relevant sectors take biodiversity considerations into account when developing policies and operational plans.

Progress is being made in Ireland in mainstreaming biodiversity and bringing the ecosystem services concept into decision-making across sectors. There is a growing recognition of the wider benefits of considering biodiversity and ecosystem services, in particular, in the agriculture, forestry, marine and tourism sectors. For example, the contribution of natural capital to Ireland's food production sector is showcased through Food Wise 2025<sup>50</sup> and the Origin Green initiative. Applying sustainability principles to food production will also have environmental benefits. A priority of the Irish Rural Development Programme is restoring, preserving and enhancing ecosystems related to agriculture. The delivery of GLAS (the Green, Low-Carbon, Agri-Environment Scheme) provides support measures in return for environmental commitments and is a key contribution of this sector to the protection of biodiversity. For the marine sector, the current European Maritime and Fisheries Fund is strongly focused on the sustainable use of resources,

preserving marine biodiversity and shifting towards a low-carbon economy. Added to these, developments in the area of Green Infrastructure are being initiated at the local and regional level. Green Infrastructure is a strategically planned network of natural and semi natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services such as water purification, air quality, space for recreation and climate mitigation and adaptation.

Under this Plan further action will be taken to raise awareness within the public sector of the implications of policy and decisions on biodiversity, through for example, the articulation of no net loss biodiversity targets in plans/policies and the appropriate utilisation of ecological expertise. In addition, engagement with the private sector will be improved through the establishment of a national Business and Biodiversity Platform in line with the CBD's Global Business Partnership.

As highlighted in previous Plans, local action is important in tackling biodiversity loss. Local Authorities should review and update their Biodiversity and Heritage Action Plans as well as their Development Plans and policies, giving due consideration to the protection and restoration of biodiversity. To support locally-led action, additional biodiversity-related guidance for Local Authorities will be published, for example, on screening for Appropriate Assessment for Planning Authorities, best practice guidance for use of GIS in Strategic Environmental Assessment (SEA), for cumulative effects assessment and best practice in SEA for infrastructure development.

Over the life of the Plan, Ireland will continue to implement key EU Directives to protect Ireland's environment and wildlife. Obligations under the Nature

# 1

OBJECTIVE

Directives include achieving, restoring and/or maintaining favourable conservation status for protected habitats and species. Apart from the Habitats and Birds Directives<sup>17,18</sup>, there are substantial biodiversity benefits from implementation of the Marine Strategy Framework Directive<sup>19</sup>, Water Framework Directive<sup>20</sup>, SEA Directive<sup>23</sup> and others. The development of a sectoral adaptation plan for Biodiversity in line with the Climate Action and Low Carbon Development Act 2015 will address the requirements necessary to improve the resilience of biodiversity to climate change.

Under the EU Nature Directives Ireland must contribute to the Natura 2000 network of sites for the protection of Europe’s habitats and species (see Objective 6). The Government intends to streamline financial expenditure tracking relating to Natura 2000 and biodiversity more broadly, including linkages to the Prioritised Action Framework for Natura 2000 (PAF)<sup>51</sup>. The PAF is a tool used by EU Member States to integrate financing for Natura 2000 into EU financial instruments.

The European Communities (Environmental Liability) Regulations established a framework of environmental liability based on the ‘polluter-pays’ principle. In Ireland, the EPA has been designated as the competent authority for all aspects of these Regulations. The Regulations prevent and remedy environmental damage by introducing, among other things, a reporting obligation on operators in respect of actual or threatened environmental damage.

In addition to being essential for our survival and well-being, healthy ecosystems are the bedrock of a sustainable economy. Gross Domestic Product (GDP) can give misleading signals about the overall economic performance and well-being of a country as it looks only at income, just one component of economic performance, and not the wealth and assets that

help generate this income. Moreover, GDP does not show the full contribution of natural capital such as forests, wetlands, and agricultural land to the economic well-being of a country. The concept of natural capital accounting has advanced with the aid of the UN Statistical Commission of the System for Environmental and Economic Accounts (SEEA)<sup>52</sup> which provides an internationally agreed method to account for material natural resources such as timber and fisheries<sup>53</sup>. Progress in measuring and valuing elements of Ireland’s biodiversity will be made under this Plan through the development of a Natural Capital Asset Register and national natural capital accounts.

A 2011 CBD report on the role of economic incentives in shaping environmental behaviour<sup>54</sup> concludes that the removal of subsidies that lead to environmentally damaging practices, and the promotion of incentive schemes that promote positive ones, can produce economic and environmental benefits if they are properly coordinated and implemented. This Plan seeks to identify policies or practices that may lead to degradation of biodiversity (termed perverse incentives) and to identify appropriate measures to ensure these “perverse incentives” do not contribute to biodiversity loss.

Legislative support is essential to underpin the actions that assist in the conservation of biodiversity. The Plan will be bolstered by further development in this area for example through legislation that addresses the provisions under the recent EU Regulation on invasive species.

**Aichi targets that these actions help us achieve:**



**Sustainable Development Goals these actions help us achieve:**



## Objective 1

### Mainstream biodiversity into decision-making across all sectors

#### TARGET 1.1:

SHARED RESPONSIBILITY FOR THE CONSERVATION OF BIODIVERSITY AND THE SUSTAINABLE USE OF ITS COMPONENTS IS FULLY RECOGNISED, AND ACTED UPON, BY ALL SECTORS

1

OBJECTIVE

Action	Timeframe	Lead/key partners	Performance indicators
1.1.1. Incorporate into legislation the requirement for consideration of impacts on biodiversity to ensure that conservation and sustainable use of biodiversity are taken into account in all relevant plans and programmes and relevant new legislation	2019	<b>DCHG</b>	1. Legislation in place
1.1.2. Public and Private Sector relevant policies will use best practice in SEA, AA and other assessment tools to ensure proper consideration of biodiversity in policies and plans	2017-2021	<b>Public Authorities, Private Sector</b>	1. New policies and plans explicitly state considerations of biodiversity 2. Percentage of policies and plans that take biodiversity into account
1.1.3. All Public Authorities and private sector bodies move towards no net loss of biodiversity through strategies, planning, mitigation measures, appropriate offsetting and/or investment in Blue-Green infrastructure	2017 -2021	<b>Public Authorities, Private Sector</b>	1. Number of Departments/Agencies articulating a no net loss target in plans and policies
1.1.4. Strengthen ecological expertise in local authorities and relevant Government Departments and agencies	2017-2021	<b>Public Authorities, The Heritage Council</b>	1. Number of full-time biodiversity officers in place in Public Authorities 2. Number of appropriately skilled staff in public bodies
1.1.5. Local Authorities will review and update their Biodiversity and Heritage Action Plans	2017-2021	<b>Local Authorities, DHPLG, The Heritage Council, DBBP</b>	1. Number of Biodiversity and Heritage Plans updated 2. Percentage of biodiversity actions implemented
1.1.6. Local Authorities will review and update their Development Plans and policies to include policies and objectives for the protection and restoration of biodiversity	2017-2021	<b>Local Authorities, DHPLG</b>	1. Number of explicit policies and objectives for biodiversity and ecosystem services in County Development Plans and other local plans per Local Authority

Action	Timeframe	Lead/key partners	Performance indicators
1.1.7. Develop a Green Infrastructure at local, regional and national levels and promote the use of nature based solutions for the delivery of a coherent and integrated network	2017-2021	<b>Local Authorities</b>	1. Number of nature based solutions employed
1.1.8. Continue to produce guidance on the protection of biodiversity in designated areas, marine and the wider countryside for Local Authorities and relevant sectors	2017-2021	<b>DCHG, EPA, Local Authorities, The Heritage Council</b>	1. Number of guidance documents published
1.1.9. Integrate Natura 2000 and Biodiversity financial expenditure tracking into Government Programmes internal paying agency management procedures including linkage to the Prioritised Action Framework <sup>51</sup> and this NBAP	2017-2021	<b>Relevant Government Departments</b>	1. Publish financial expenditure for Natura 2000 2. Number of Government Programmes which quantify biodiversity expenditure
1.1.10. Develop a Natural Capital Asset Register and national natural capital accounts by 2020, and integrate these accounts into economic policy and decision-making	2017-2021	<b>CSO, IFNC, DCHG</b>	1. Natural Capital Asset Register developed 2. National natural capital accounts developed 3. Natural capital integrated into economic policy
1.1.11. Initiate natural capital accounting through sectoral and small scale pilot studies, including the integration of environmental and economic statistics using the framework of the UN System of Experimental-Ecosystem Accounting (SEEA)	2017-2021	<b>CSO, IFNC, Irish Water DHPLG, EPA, NESC</b>	1. Number of pilot studies initiated 2. Number of national accounts completed
1.1.12. Establish a national Business and Biodiversity Platform under the CBD's Global Business Partnership	2018	<b>IFNC, BITCI, Sustainable Nation</b>	1. Platform established



## 1

## OBJECTIVE

Action	Timeframe	Lead/key partners	Performance indicators
1.1.13. Ensure Origin Green produces tangible benefits for biodiversity with increased emphasis on conservation and restoration of biodiversity	2018	<b>Bord Bia</b> , Teagasc, DAFM	<ol style="list-style-type: none"> <li>Origin Green reports include assessment of biodiversity impacts and benefits</li> <li>Level of support for development of farmland habitat management plans</li> <li>Development of a scientifically-based methodology to assess farmland habitats</li> <li>Development and trialling of a biodiversity Indicator in the Teagasc National Farm Survey</li> <li>Number of Origin Green businesses actively engaged with other biodiversity actions</li> <li>Support of the All-Ireland Pollinator Business and Farm guidelines through the Origin Green</li> </ol>
1.1.14. Implement actions from Ireland's Biodiversity Climate Change Sectoral Adaptation Plan	2018-2021	<b>Relevant Government Departments</b>	<ol style="list-style-type: none"> <li>Number of actions implemented</li> </ol>
1.1.15. Identify and take measures to minimise the impact of incentives and subsidies on biodiversity loss, and develop positive incentive measures, where necessary, to assist the conservation of biodiversity	2017-2019	<b>Relevant Government Departments</b>	<ol style="list-style-type: none"> <li>Policies and practices that generate perverse incentives identified</li> <li>Number of appropriate reform policies designed and implemented</li> </ol>
1.1.16. Establish and implement mechanisms for the payments of ecosystem services including carbon stocks, to generate increased revenue for biodiversity conservation and restoration	2020	<b>Relevant Government Departments</b>	<ol style="list-style-type: none"> <li>Number of mechanisms established for payments for ecosystem services</li> </ol>
1.1.17. Develop and implement a National Biodiversity Finance Plan to set out in detail how the actions and targets of this NBAP will be delivered from 2017 and beyond	2017-2021	DCHG, BWG	<ol style="list-style-type: none"> <li>National Biodiversity Finance Plan produced</li> </ol>

Action	Timeframe	Lead/key partners	Performance indicators
1.1.18. Monitor the implementation of this Plan	2017-2021	BWG, Biodiversity Forum	<ol style="list-style-type: none"> <li>1. Number of meetings of BWG</li> <li>2. Attendance of representatives of departments and agencies</li> <li>3. Track status of National Biodiversity Indicators</li> <li>4. Interim report produced</li> </ol>

**TARGET 1.2:  
STRENGTHENED LEGISLATION IN SUPPORT OF TACKLING BIODIVERSITY LOSS IN IRELAND**

Action	Timeframe	Lead/key partners	Performance indicators
1.2.1. Review existing legislation and identify gaps	2020	<b>DCHG</b>	1. Review published
1.2.2. Consolidate the Wildlife Acts in a new Bill	2019	<b>DCHG</b>	1. Review of existing legislation published
1.2.3. Review Flora (Protection) Order and Schedule 5 of the Wildlife Act in light of published regional and global Red Lists and other information.	2018	<b>DCHG</b>	1. Reviews completed of Flora Protection Order and Schedule 5 of the Wildlife Act
1.2.4. Ensure the various provisions of the Forestry Act 2014 that strengthen the protection of biodiversity, water and the wider environment are brought into effect on commencement of the Act	2018	<b>DAFM</b>	1. Commencement orders for all provisions of the Act
1.2.5. Publish legislation to address required provisions under the EU Regulation on invasive alien species (No. 1143/2014) and on responsibilities and powers regarding invasive alien species, giving IFI responsibility for aquatic invasive species	2017	<b>DCHG, DCCAE, IFI</b>	1. Legislation published
1.2.6. Ratify the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation to the Convention on Biological Diversity and enact necessary regulations	2018	<b>DCHG</b>	<ol style="list-style-type: none"> <li>1. The Protocol ratified</li> <li>2. Regulation enacted</li> </ol>
1.2.7 Publish legislation to provide a legal basis for National Parks	2020	<b>DCHG</b>	1. Legislation published





## Strengthen the knowledge base for conservation, management, and sustainable use of biodiversity

This Plan will build on the achievements of the second Biodiversity Action Plan by addressing outstanding areas of survey and research to strengthen our biodiversity knowledge base and inform decision-making.

Up-to-date scientific knowledge is essential to make an informed assessment on the status of biodiversity, for insight into the causes of biodiversity loss and for developing the policies and means to halt or reverse losses. During the period of the second Biodiversity Action Plan (2011-2016) there was a significant improvement in our knowledge of conservation of species and habitats. Major research projects were completed in the areas of forestry, agriculture and agri-environment schemes, marine ecosystems, and climate change. A significant amount of monitoring, assessment and research was undertaken to fulfil obligations under the EU Habitats, Birds, Marine Strategy Framework, Maritime Spatial Planning and Water Framework Directives. The national report on the conservation status of species and habitats of EU interest was published in 2013<sup>27</sup>. Seven Red Lists were published between 2011 and 2016 for species of: large moths<sup>55</sup>, mayflies<sup>32</sup>, mosses and liverworts<sup>56</sup>, vascular plants<sup>57</sup>, amphibians, reptiles and freshwater fish<sup>26</sup>, cartilaginous fish<sup>58</sup> and damselflies and dragonflies<sup>33</sup>. In addition, an updated list of Birds of Conservation Concern in Ireland was produced<sup>28</sup>. Wildlife Manuals were published by the NPWS on a range of topics including monitoring and survey techniques for species and habitats<sup>59</sup>, as well as on mapping and assessment of ecosystems and their services<sup>16</sup>. Primary literature has been published on interactions between activities in the marine and designated habitats and species<sup>60</sup>. An online data

management system ("Biodiversity Maps") has now been established where biodiversity data is collated, stored and made available<sup>61</sup>. Habitat maps for the marine and terrestrial environments were progressed and the National Vegetation Classification scheme was initiated<sup>47</sup>.

Ireland will continue to support and encourage the volunteer network who play such an important role in biological recording schemes.

Environmental data is being made accessible through implementation of the INSPIRE Directive, and where appropriate, made available through the Irish government's open data portal (data.gov.ie) that was progressed during the period of the second Biodiversity Action Plan. Ireland will continue to implement common data standards, as well as quality assurance procedures, to allow the data to be used for multiple purposes.

Ireland recognises the value of long-term monitoring of species and habitats to generate data that tracks biodiversity change over time and commits to continue long-term monitoring schemes. The existing suite of National Biodiversity Indicators will be built upon to develop state, pressure and response indicators to aid the assessment of Ireland's national and international biodiversity commitments by 2020.

Despite advances in our understanding of Ireland's biodiversity, basic identification and taxonomic skills and knowledge are lacking for many taxonomic groups<sup>7</sup>.

The National Platform for Biodiversity Research published research recommendations for agriculture and soils<sup>62</sup>, freshwaters<sup>63</sup>, marine<sup>64</sup>,

## 2 OBJECTIVE

# 2

## OBJECTIVE

peatland<sup>65</sup>, and invasive species<sup>66</sup>. The EPA Research Strategy for 2014-2020<sup>67</sup> is centred on climate change, water and sustainability. The DAFM Strategic Research Plan for the forestry sector up to 2017 and this includes scope (under Theme 3.6) for research in woodlands, forests and associated ecosystem services, including those relating to biodiversity and water<sup>68</sup>. The Agri-Food sector research plan (SHARP)<sup>69</sup> focuses on sustainable production whilst supporting implementation of the Water Framework Directive (WFD) and Marine Strategy Framework Directive (MSFD) and biodiversity goals.

There is consensus among scientists that climate change is likely to become one of the most significant drivers of biodiversity loss by the end of the century<sup>70</sup>. More information is required on the impacts of climate change to ecosystem services and on the role of biodiversity and habitats play in both mitigation and adapting to climate change. For example, protecting biodiversity can help limit greenhouse gas concentrations because forests, peatlands and other habitats are major stores of carbon. Moreover, healthy ecosystems, e.g. coastal wetlands, can be employed to buffer against coastal erosion. Ecosystem approaches should be an integral part of the overall mitigation and adaptation effort.

To guide the future biodiversity research agenda the Government, academia and research National Platform for Biodiversity Research institutions will be re-established to undertake a review of biodiversity research needs in 2019. The existing forest research programme on forest biodiversity, carbon accounting, and the interaction of climate change and forest systems will be continued and a Marine Research Strategy has been published in 2017. The importance of research into the valuation of ecosystem services has been recognised and the topic has been incorporated within the EPA STRIVE research programme.

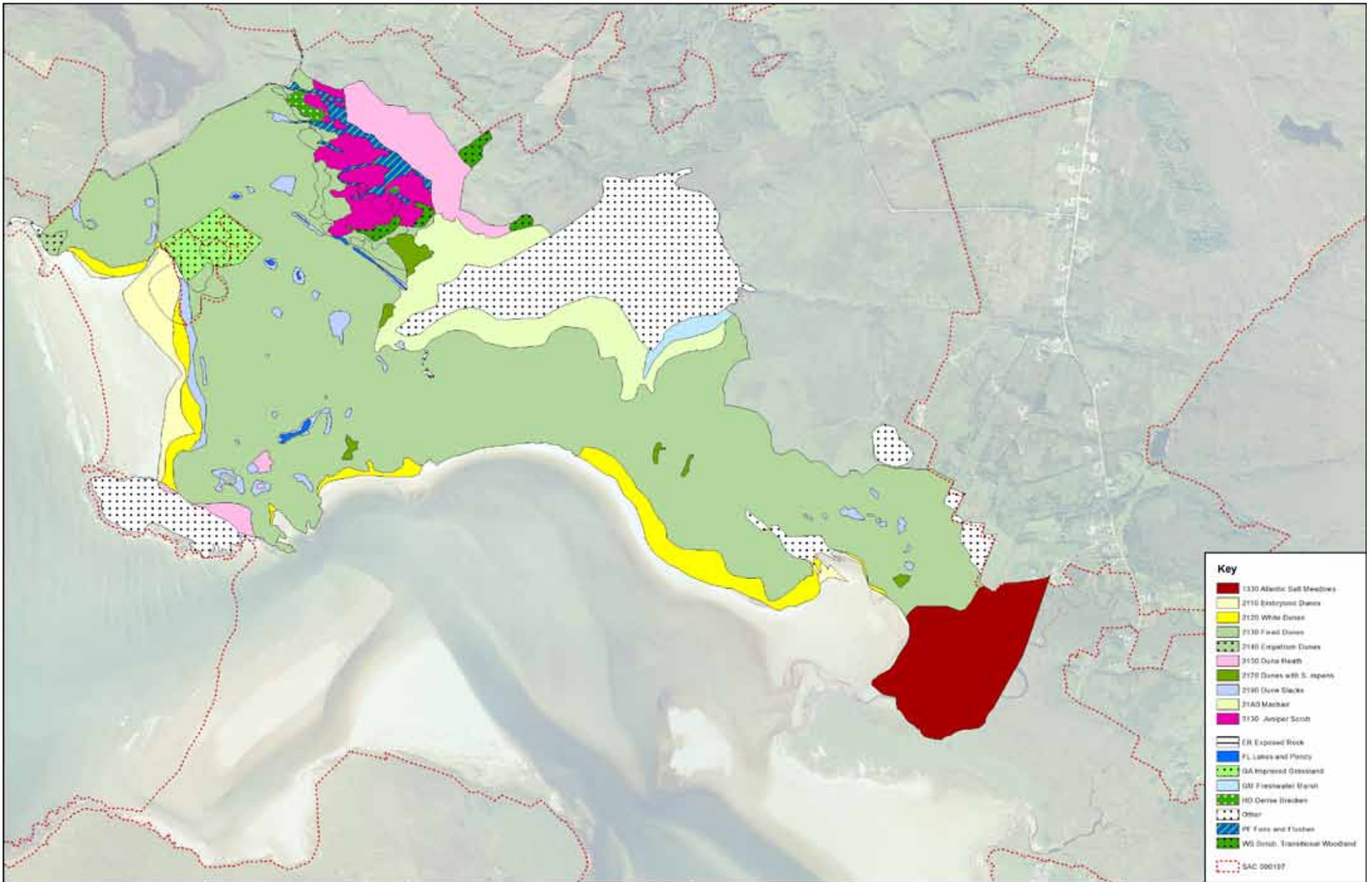
Aichi targets that these actions help us achieve:



Sustainable Development Goals that these actions help us achieve:



Progress has been made with habitat monitoring and mapping >  
Sheskinmore habitat map by Jochen Roller



**Key**

- 1330 Atlantic Salt Meadows
- 2110 Embryonic Dunes
- 2120 White Dunes
- 2130 Fixed Dunes
- 2140 Eriophorum Dunes
- 2150 Dune Heath
- 2170 Dunes with *S. repens*
- 2190 Dune Slacks
- 21A0 Machair
- 21B0 Asper Scrub
- ER Exposed Rock
- PL Lakes and Ponds
- GA Improved Grassland
- GM Freshwater Marsh
- HD Dune Slacks
- Other
- PF Fens and Flashes
- WS Scrub, Transitional Woodland
- SAC 000187



## Objective 2

### Strengthen the knowledge base for conservation, management, and sustainable use of biodiversity

#### TARGET 2.1:

KNOWLEDGE OF BIODIVERSITY AND ECOSYSTEM SERVICES HAS SUBSTANTIALLY ADVANCED OUR ABILITY TO ENSURE CONSERVATION, EFFECTIVE MANAGEMENT, AND SUSTAINABLE USE BY 2021

# 2

## OBJECTIVE

Action	Timeframe	Lead/key partners	Performance indicators
2.1.1. Review priority needs for biodiversity research in 2019	2019	EPA, DCHG, Academia and Research Institutions, eNGOs, Government Agencies	1. Review of biodiversity research needs published
2.1.2. Develop a classification scheme for terrestrial vegetation and marine and freshwater communities	2020	DCHG, NBDC	1. Number of Irish vegetation communities/marine communities classified
2.1.3. Complete national terrestrial habitat, land cover, land use, and ecosystem service maps	2021	DCHG, OSI, EPA, Heritage Council, Teagasc, DAFM	1. Data standards agreed 2. Habitat maps produced and made available 3. Extent of area mapped 4. Maps developed and made available for use
2.1.4. Implement common data standards and quality assurance procedures in line with the INSPIRE Directive and ensure that data and mapping on rare, threatened and protected species and habitats are freely available	2020	DCHG, Marine Institute, EPA, Heritage Council, NBDC, DPER	1. Number of datasets published and open to interoperable standards 2. Number of datasets used in different domains (e.g. research papers, mapping products)
2.1.5. Support research on economic and societal valuations and non-economic valuations of ecosystem services and benefits and how biodiversity underpins these values	2017-2021	EPA, DCHG, DAFM, IFNC, NESC, CSO, Academia and Research Organisations, BnM	1. Number of relevant research projects initiated

## 2 OBJECTIVE

Action	Timeframe	Lead/key partners	Performance indicators
2.1.6. Undertake surveys and assessments of status, trends and distribution of all habitats and species of EU interest and additional habitats and species of national and regional importance	2017-2021	DCHG, EPA, IFI, NBDC, Academia and Research Institutions, eNGOs	<ol style="list-style-type: none"> <li>1. Reports on status of habitats and species of EU interest</li> <li>2. Level of funding for monitoring habitats and species of interest</li> <li>3. Number of surveys of habitats and species undertaken</li> <li>4. Number of Red Data lists</li> </ol>
2.1.7. Support and encourage the volunteer network and local communities to carry out biological recording and other citizen science projects	2017-2021	Relevant Government Departments and agencies, NBDC, eNGOs, Community groups	<ol style="list-style-type: none"> <li>1. Number of records submitted</li> <li>2. Number of participants in volunteer organisations</li> <li>3. Number of projects where data is gathered by citizen scientists</li> </ol>
2.1.8. Ensure that international collaborative funding opportunities are effectively targeted to assist implementation of this NBAP through consultation between funders, researchers and users of research	2017-2021	DCHG, DCCAE, EPA, Academia and Research Institutions	<ol style="list-style-type: none"> <li>1. Number of international cooperative funding programmes in which Ireland is a partner</li> <li>2. Number and value of grants won</li> </ol>
2.1.9. Enhance knowledge of the most significant direct and indirect causes of biodiversity and ecosystem service loss including combined and cumulative stressors; develop and test prevention and mitigation options	2017-2021	DCHG, Academia and Research Institutions, EPA, DAFM, DCCAE, DHPLG	<ol style="list-style-type: none"> <li>1. Number of relevant research programmes</li> <li>2. Number of published research papers and reports</li> </ol>
2.1.10. Continue forest research programme on forest biodiversity, the delivery of wider ecosystem services (e.g. protection of water), carbon accounting and the interaction of climate change and forest systems	2017-2021	DAFM, COFORD, Forest Service, Academia and Research Institutions	<ol style="list-style-type: none"> <li>1. Number of published research papers and reports</li> <li>2. Funding levels</li> </ol>

# 2

## OBJECTIVE

Action	Timeframe	Lead/key partners	Performance indicators
2.1.11. Build and maintain the human resources, systems and infrastructure needed to identify, obtain, collate and curate the biological specimens that are the basis for taxonomic knowledge through training programmes	2017-2021	Academia and Research Institutions, DCHG, Botanic Gardens, NBDC, CIEEM, BSBI	1. Number of training courses 2. Number of qualified taxonomists
2.1.12. Hedgerow surveys will be continued by Local Authorities	2017-2021	Local Authorities, DCHG, DHPLG, Woodlands of Ireland, NBDC, HLAI	1. Length of hedgerow surveyed
2.1.13. Undertake Red List assessments for taxonomic groups (for which sufficient data can be gathered) and repeat existing Red List assessments at appropriate intervals	2017-2021	<b>DCHG, DAERA,</b> NBDC, CEDaR, IFI	1. Number of Red Lists completed
2.1.14. Build upon Red List assessments to identify conservation priority species and identify knowledge gaps for those prioritised species	2017-2021	DCHG, <b>NBDC,</b> IFI,	1. Number of completed Red Lists processed to identify conservation priority species
2.1.15. Identify and map nationally important Key Biodiversity Areas (KBAs) of Ireland's terrestrial and marine territories, including Ecologically or Biologically Significant Marine Areas (EBSAs)	2017-2021	<b>NBDC, DCHG,</b> <b>Marine Institute,</b> DAFM, DCCAE	1. Number of KBAs/EBSAs identified
2.1.16. Prioritise needs for research arising from the Biodiversity Climate Change Sectoral Adaptation Plan	2017-2021	<b>EPA, DCCAE,</b> <b>Academia</b> <b>and Research</b> <b>Institutions,</b> DCHG, Marine Institute	1. Number of long-term datasets on climate change impacts



# 2

OBJECTIVE

Action	Timeframe	Lead/key partners	Performance indicators
2.1.17. Encourage long-term monitoring schemes to enable tracking of biodiversity change over time	2017-2021	<b>DCHG</b> , NBDC, EPA, Academia and Research Institutions, relevant eNGOs	1. Number of long-term monitoring programmes
2.1.18. Conduct research into the threat posed to Ireland's marine biodiversity by marine litter including microplastics, ocean acidification, light and noise	2017-2021	<b>Academia and Research Institutions</b> , DHPLG, EPA, Marine Institute, DCHG	1. Number of published papers and reports 2. Number of research projects completed and results published 3. Level of funding
2.1.19. Update the Marine Research Strategy	2017	Marine Institute, DAFM	1. Updated Marine Research Strategy
2.1.20. Explore biodiversity offsets as a means to achieve no net loss of biodiversity under this Plan and as a source of revenue for biodiversity conservation and restoration	2018	<b>DCHG, DHPLG</b>	1. Review published
2.1.21. Identify areas/instruments and tax enablers that could be developed to incentivise biodiversity/conservation project funding by the private sector	2017-2021	Academia, research institutes, relevant public bodies	1. Number of instruments/tax enablers identified
2.1.22. Research and gather information on biodiversity implications of synthetic biology and novel genetic techniques to inform policy and regulatory issues	2017-2021	Academia, research institutes, relevant public bodies	1. Number of relevant publications
2.1.23 Encourage the use of emerging technology especially in barcoding and genomic research to acquire relevant knowledge on Irish species	2017-2021	Academia, research institutes, relevant public bodies	1. Number of relevant publications
2.1.24. Build on the National Biodiversity Indicators to develop state, pressures, and response indicators to allow assessment of Ireland's national and international biodiversity commitments by 2020, including this the 3rd NBAP, the EU Biodiversity Strategy, the Convention on Biological Diversity, and the Sustainable Development Goals	2019	<b>NBDC</b> , DCHG	1. Number of operational indicators

# 3

## OBJECTIVE

### Increase awareness and appreciation of biodiversity and ecosystem services

Increased awareness and understanding of biodiversity issues will be important for enhancing proactive behaviour and engaging all relevant bodies in actions outlined in this Plan. Stakeholder participation will be key in reaching the targets and therefore the aim will be to enhance training, communication, cooperation and concerted action between all relevant sectors, (government, landowners, business, farming, forestry, scientific and conservation communities, etc.) in support of biodiversity conservation. This has to be a two-way process and it is also vital that conservation practitioners understand and appreciate the needs and aspirations of landowners, rural communities and businesses.

The Eurobarometer results from 2007<sup>71</sup>, 2013<sup>72</sup>, and 2015<sup>73</sup> show strong support from the Irish and European public for the conservation of biodiversity and the services it provides. However, in 2015 35% of the Irish people interviewed for Eurobarometer had never heard of the term biodiversity and more than 90% would like better information about the importance of biodiversity<sup>73</sup>.

There is a growing number of activities aimed at increasing awareness and appreciation of biodiversity and ecosystem services within schools. Since the addition of the biodiversity theme to the Green-Schools programme in 2010, over 600 schools have been awarded a biodiversity flag. Green Campus and Neat Streets also work closely with third level and second level establishments, respectively. The number of entries into the Biological and Ecological Category of the BT Young Scientist and Technology Exhibition has



Abbeyleix bog project – community engagement 



◀ National Biodiversity Data Centre Annual Recorder's Event (Liam Lysaght)

increased from 221 entries in 2002 to 604 entries in 2017. Bord na Móna has a primary schools education programme called Eco-Rangers and BurrenBeo Trust runs EcoBeo which is a programme for primary schools in the Burren. Irish Peatland Conservation Council (IPCC) runs educational school tours, visits, field studies and teacher training workshops as well as publishing a variety of education resources on their website. IFI runs 'Something Fishy' – an educational programme delivered to over 100 primary schools each year. A number of National Parks have education programmes delivered to thousands of school children each year and the EPA have developed a suite of education programmes including a Senior Cycle Geography multimedia pack. The Marine Institute has developed the Explorers Education Programme to work with over 15,000 primary school students during 2017 from over 10 coastal counties promoting ocean literacy and awareness

of marine biodiversity. Ireland's zoos and aquaria also deliver education programmes around biodiversity. Added to this the Environmental Education Unit of An Taisce is introducing the international Learning About Forests (LEAF) programme to Ireland.

Increasing awareness and appreciation also need to be expanded beyond the education system to the wider community. Woodlands of Ireland has focused attention on Ireland's native woodland resource and promoted the management and creation of native woodlands nationally. One of the seven categories of the Tidy Towns award is 'Wildlife, Habitats, and Natural Amenities' and there are now two special awards around biodiversity (The Pollinator Award and Tree Project Award), while 2016 was the first year of the Pollinator Award in the Tidy Towns with 57 entries. Community grass



roots initiatives are also going to be important in delivering the objectives of this Plan. An example of this is An Taisce Green Communities that has been supporting a network of some 30 community groups since 2008. In 2017 Green Communities will initiate Environmental Community Training within County Limerick and will see Tidy Towns Groups, Community Councils, Residents Associations, Community Gardens, and other voluntary groups engaging with practical environmental training. This training will be delivered as part of a two year project comprising biodiversity and climate change. Business in the Community Ireland (BITCI) work with the private sector to increase awareness and understanding of the importance of embedding biodiversity into their decision-making.

The United Nations has declared May 22 as International Day for Biological Diversity to increase understanding and awareness of biodiversity issues. There are a large number of events held in Ireland around that time including Ireland's National Biodiversity Week (organised by NPWS and the Irish Environmental Network), Bioblitz (organised by the National Biodiversity Data Centre), and other local events such as Kildare Biodiversity Week.

Effective communication requires the information to be tailored to key audiences and the use of appropriate media (e.g. social media, web-based, radio, TV etc.) to share these messages. As part of implementing this Plan, a communication campaign is foreseen aimed at increasing public and sectoral understanding of the value of biodiversity.

Aichi Targets that these actions help us to achieve:



Sustainable Development Goals that these actions help us to achieve:



(Lorcan Scott)



## Objective 3

### Increase awareness and appreciation of biodiversity and ecosystem services

#### TARGET 3.1:

ENHANCED APPRECIATION OF THE VALUE OF BIODIVERSITY AND ECOSYSTEM SERVICES AMONGST POLICY MAKERS, BUSINESSES, STAKEHOLDERS, LOCAL COMMUNITIES, AND THE GENERAL PUBLIC

Action	Timeframe	Lead/key partners	Performance indicators
3.1.1. Engage with local communities and stakeholders to help achieve the objectives of this plan	2017-2021	Relevant government departments and agencies, eNGOs, community groups including CWF, and SECAD	1. Consultation with community groups undertaken
3.1.2. Enhance training, communication, cooperation and concerted action between relevant sectors in support of biodiversity conservation	2021	Relevant government departments and agencies, eNGOs and community groups	1. Establishment and delivery of courses at various NFQ levels accessible across the country 2. Visits to natural heritage attractions 3. Number of biodiversity-related day events and number of people involved. 4. Number of people surveyed through the Eurobarometer that have understand the term 'biodiversity' 5. Number of local community groups involved in conservation projects 6. Number of training courses
3.1.3. Raise awareness in private sector organisations of impacts and dependencies on biodiversity and ecosystem services	2017-2021	<b>Private sector organisations</b> including: IFNC, BITCI, Ibec, ISME, IFA, IOOA, Sustainable Nation	1. Biodiversity issues reported in non-financial reporting 2. Guidelines and support tools are available to inform private sector action
3.1.4. Support radio, TV, web-based and other media products that emphasise or are centred around showcasing biodiversity, its importance, and current or future challenges		<b>DCHG, DCCAE, EPA, Heritage Council, NBDC, Academia, eNGOs</b>	1. Number of media products centred around biodiversity

# 3

OBJECTIVE

# 3

## OBJECTIVE

Action	Timeframe	Lead/key partners	Performance indicators
3.1.5. Establish an island-wide Biodiversity Awards initiative where local, sectoral and educational projects or groups with a “biodiversity enhancement” focus compete for innovative prizes that will support their ongoing work and provide a springboard for public awareness and participation	2018	DCHG, DAERA	1. Biodiversity awards initiative established
3.1.6. Include biodiversity and ecosystem services in relevant courses in primary, secondary and tertiary level education	2018-2021	DES, Academia and Research Institutions, DCHG, An Taisce, eNGOs, Heritage Council	<ol style="list-style-type: none"> <li>1. Inclusion of biodiversity and ecosystem services in primary and secondary curriculum</li> <li>2. Number of students taking science or biology at Junior and Senior Cycle levels respectively</li> <li>3. Number of students studying biodiversity related topics at the tertiary level</li> </ol>
3.1.7. Develop and implement a communications campaign in support of public and sectoral understanding of the value of biodiversity and full implementation of this NBAP	2020	<b>Relevant Government Departments and agencies</b> , Local Authorities	<ol style="list-style-type: none"> <li>1. Number of media mentions for launch, achievements and future actions</li> <li>2. Reach of dedicated media attention (how many people are reached)</li> <li>3. Number of DCHG staff assigned as communication officers</li> <li>4. Number of events in National Biodiversity Week</li> <li>5. Eurobarometer</li> </ol>
3.1.8. Engage landowners, farming and aquaculture sectors to promote the benefits of conservation and sustainable use of biodiversity	2021	DCHG, DAFM, DHPLG, Marine Institute, Teagasc, LIFE projects, farmer representative groups and eNGOs	1. Level of understanding at local and national level by landowner and land-user groups of measures to support biodiversity

## Conserve and restore biodiversity and ecosystem services in the wider countryside

Most of our biodiversity and ecosystem services are in the wider countryside and are facing multiple pressures. Ireland's report to the EU on the condition of habitats and species of European interest showed that the main pressures and threats to biodiversity are: agricultural intensification, natural system modifications (drainage, illegal burning, reclamation, land use change, coastal protection), invasive and problematic species, and human intrusion and disturbances<sup>27</sup>.

Responses to these pressures on biodiversity and ecosystem services include the EU Directives on Water, Habitats, Birds, and Nitrates, Regulation on Invasive Alien Species, and reform of the Common Agricultural Policy (CAP). Ongoing monitoring of the implementation of these policies shows that substantial progress has been made although there is still much to be done to conserve and restore biodiversity and ecosystem services in the wider countryside. At a national level, the current major policies to address declines in biodiversity in the wider countryside include: the Rural Development Programme (RDP) which provides for agri-environment schemes<sup>43</sup>, the National Peatland Strategy<sup>45</sup>, and the European Maritime and Fisheries Fund.

This Plan will build on the achievements made to date to protect and restore Ireland's biodiversity and ecosystem services. Target 4.1 focuses on the role of agriculture, rural development and forestry policies which are also critical to the delivery of Objective 6. A central priority of the Irish RDP is restoring, preserving and enhancing ecosystems related to agriculture and forestry. Ireland will continue to develop and implement agri-environment schemes such as GLAS and Locally Led Agri-Environment Schemes (LLAES) with an increasing results-based focus and ensure that a measurable net gain for biodiversity is attained.



# 4

OBJECTIVE

The ecosystem services and environmental public goods provided by High Nature Value (HNV) farming are becoming more widely recognised, due to the growing awareness that biodiversity is usually higher on farmland that is managed at a lower intensity. This can include habitats and species that fall outside designation under the Habitats and Birds Directives. This has been aided by recent work that identified areas in Ireland with strong HNV farmland potential<sup>74</sup> and descriptions of the types of HNV farmland that occur in Ireland<sup>75</sup>. This will aid the development of measures to maintain and enhance its biodiversity and ecosystem services. The characterisation and distribution of High Nature Value (HNV) farmland in Ireland ([www.high-nature-value-farmland.ie](http://www.high-nature-value-farmland.ie)) can enable better design and targeting of measures to particular HNV landscape types. More targeted results-based management of HNV farmland can maintain and enhance its associated biodiversity and ecosystem services.

Progress towards implementing a number of existing strategies and action plans relating to agriculture, rural development and forestry will be made under Target 4.1. These include the All-Ireland Pollinator Plan, national Genetic Conservation Strategies for plants and animals, BirdWatch Ireland's Group Species Action Plans for birds<sup>76</sup>, and the biodiversity action plan from Bord na Móna. The new Forestry Programme 2014-2020<sup>77</sup> includes higher support for broadleaf planting and also measures to promote the creation

# 4

## OBJECTIVE

of new native woodlands and the appropriate restoration management of existing native woodlands, to promote associated biodiversity and other ecosystem services especially water protection<sup>78</sup>.

The National Botanic Gardens, the Trinity College Botanic Gardens and the Irish Seed Savers' Association, together with Ireland's zoos and other private and State collections, play an important role as gene banks and living collections. The National Botanic Gardens is also the focal point for the National Strategy for Plant Conservation, which will be updated under this Plan and is modelled on the Global Strategy for Plant Conservation.

Implementation of key EU Directives, such as the Water Framework Directive and Nitrates Directive, will reduce pressure on biodiversity by protecting the quality of our water, air and soils and reducing diffuse pollution (e.g. from pesticides, nitrates). Target 4.2 refers to a significant reduction of pollutant pressures on terrestrial and freshwater biodiversity. In addition, it is important to ensure that benefits for biodiversity are optimised in Flood Risk Management Planning and drainage schemes to ensure a positive rather than negative impact of these activities on biodiversity (Target 4.3).

This Plan sets out a number of actions in Target 4.4 to ensure that harmful invasive alien species are controlled and there is reduced risk of spread of new species. The establishment of a multi-agency working group to bring together all relevant parties to meet on an all-island basis is a key action to achieve this target. Added to this the implementation and adoption of international commitments, such as the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention), will help control harmful invasive alien species and reduce the risk of spread of new species.

Target 4.6 focuses on improving the enforcement of Wildlife Law. It includes publishing a Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) national enforcement plan that will incorporate actions from the EU Action Plan against Wildlife Trafficking<sup>79</sup>.

Aichi Targets that these actions help us achieve:



Sustainable Development Goals that these actions help us achieve:



Giant hogweed invasive alien species (Lorcan Scott) ⬆

Himalayan balsam invasive alien species (Lorcan Scott) ⬆







## Objective 4

### Conserve and restore biodiversity and ecosystem services in the wider countryside

#### TARGET 4.1:

#### OPTIMISED OPPORTUNITIES UNDER AGRICULTURE AND RURAL DEVELOPMENT, FORESTRY AND OTHER RELEVANT POLICIES TO BENEFIT BIODIVERSITY

# 4

## OBJECTIVE

Action	Timeframe	Lead/key partners	Performance indicators
4.1.1. Development and implementation of agri-environment schemes (AES) under the current and next Rural Development Programme (i.e. Green, Low Carbon, Agri-environment Scheme (GLAS) and locally led AES (LLAES). Ensure AES achieve a quantifiable net gain for biodiversity and ecosystem services including significant habitat maintenance and restoration measures	2017-2021	<b>DAFM</b> , Teagasc	<ol style="list-style-type: none"> <li>1. Length/area of habitats under AES measures</li> <li>2. Ecological monitoring tools implemented which allow for quantifying real ecological benefits of AES</li> <li>3. Area of semi-natural/natural habitat maintained/restored</li> </ol>
4.1.2. Describe High Nature Value (HNV) farmland and develop measures and support tools to maintain and enhance its biodiversity and ecosystem services	2017-2021	DAFM, DCHG, Teagasc, Heritage Council, Academia and Research Institutions	<ol style="list-style-type: none"> <li>1. Monitoring programme for extent, distribution and quality of HNV farmland agreed and implemented</li> <li>2. Extent of area identified as HNV</li> <li>3. Expenditure on biodiversity related AES measures in HNV areas</li> </ol>
4.1.3. Implement Bord na Móna's Biodiversity Action Plan 2016-2021 and any revisions of the Plan	2017-2021	<b>BnM</b>	<ol style="list-style-type: none"> <li>1. Number of actions implemented</li> </ol>
4.1.4. Implement actions in the Forestry Programme 2014-2020, ensuring maximised positive outcomes for biodiversity and ecosystem services and restoration of areas impacted by inappropriate forestry, including the implementation of recommendations of HYDROFOR study <sup>80</sup> .	2017-2020	<b>DAFM</b>	<ol style="list-style-type: none"> <li>1. Achievement of 30% target for broadleaf afforestation</li> <li>2. Uptake of the Native Woodland Establishment Scheme and the Native Woodland Conservation Scheme</li> <li>3. New Environmental Afforestation Requirements in place that are fully compliant with EU Directives</li> <li>4. Area of forestry under restoration measures</li> </ol>

# 4

OBJECTIVE

Action	Timeframe	Lead/key partners	Performance indicators
4.1.5. Progress implementation of BirdWatch Ireland's Group Species Action Plans for birds (e.g. lowland farmland birds, riparian birds, woodland and scrub birds, upland birds and Lake, Fen and Turlough birds)	2017-2021	<b>BWI</b> and other partners listed in their plans	1. Number of actions undertaken and delivered 2. Population trends in targeted species
4.1.6. Review, update and publicise the National Plant Conservation Strategy including updating the strategy in line with current global targets	2017-2020	<b>Botanic Gardens, DCHG</b>	1. Number of targets achieved
4.1.7. Implement the National Genetic Conservation Strategies for animals and plants	2017-2020	<b>DAFM</b> , Irish Seed Savers Association	1. Number of species, varieties, or landraces for which conservation measures are being undertaken
4.1.8. Implement the All-Ireland Pollinator Plan including: making the Irish countryside more pollinator friendly; raising awareness of pollinators; supporting beekeepers and growers; expanding knowledge of pollinators; and collecting evidence to track changes <sup>81</sup>	2015-2020	<b>NBDC</b> and other actors listed in the plan	1. Number of actions implemented 2. Status of pollinator populations 3. Delivery of pollinator actions in agri-environmental plans 4. Area of land under organic production
4.1.9. Implement "Deer Management Strategy in Ireland - A Framework for Action" <sup>82</sup>	2017-2021	Irish Deer Management Forum, <b>DAFM</b>	1. Area of woodland with appropriate deer management

**TARGET 4.2:**  
**PRINCIPAL POLLUTANT PRESSURES ON TERRESTRIAL AND FRESHWATER BIODIVERSITY SUBSTANTIALLY REDUCED BY 2020**

4

OBJECTIVE

Action	Timeframe	Lead/key partners	Performance indicators
4.2.1. Continue to protect, enhance and monitor the ecological status of water during the second cycle of the Water Framework Directive (2015-2021) including reducing risks to water quality and utilising ecological expertise in decision-making, and in analysis of cumulative effects	2017-2021	<b>EPA, DAFM</b> DHPLG, IFI, DCHG, Local Authorities, Academia and Research Institutions, Waterways Ireland, Marine Institute	1. The status of water quality in Ireland 2. Number of River Basin Management Plan (Programme of Measures) measures implemented
4.2.2. Irish Water to implement its Water Services Strategic Plan (2015-2040), in particular its objective to protect and enhance the environment	2017-2021	<b>Irish Water</b> DHPLG	1. Environmental monitoring of the implementation of the plan
4.2.3. Implement recommendations of EPA STRIVE Report Series No. 99 (Management Strategies for the Protection of High Status Waterbodies) <sup>83</sup> including, amongst other measures: prioritisation for protection measures; planning/licensing control; assessment of cumulative impacts; and integrated monitoring and protection	2017-2021	<b>EPA</b> , Local Authorities, DAFM	1. High status catchment delineation and prioritisation for protection measures 2. Establishment of a monitoring system 3. Centralised GIS database or activities database 4. Trends in status



**TARGET 4.3:**  
**OPTIMISED BENEFITS FOR BIODIVERSITY IN FLOOD RISK MANAGEMENT PLANNING AND DRAINAGE SCHEMES**

Action	Timeframe	Lead/key partners	Performance indicators
4.3.1. Ensure that Flood Risk Management (FRM) planning and associated SEA, EIA and AA, minimises loss of biodiversity and ecosystem services through policies to promote more catchment-wide and non-structural flood risk management measures	2017-2021	<b>OPW</b>	<ol style="list-style-type: none"> <li>1. Assessment to identify and promote natural flood management techniques that may be suitable for application in Ireland</li> <li>2. Inclusion of catchment-wide and non-structural measures within the options assessed by Flood Risk Management Plans</li> </ol>
4.3.2. All significant drainage (arterial drainage), including both initial drainage and maintenance drainage will be assessed for its implications for biodiversity, particularly for wetlands	2017-2021	<b>OPW, IFI</b>	<ol style="list-style-type: none"> <li>1. Inclusion of biodiversity considerations in drainage programs</li> <li>2. Number of assessments on drainage works</li> </ol>

**4**  
**OBJECTIVE**

**TARGET 4.4:**  
**HARMFUL INVASIVE ALIEN SPECIES ARE CONTROLLED AND THERE IS REDUCED RISK OF INTRODUCTION AND/OR SPREAD OF NEW SPECIES**

Action	Timeframe	Lead/key partners	Performance indicators
4.4.1. Ratify the International Convention for the Control and Management of Ships' Ballast Water and Sediments	2017	<b>DTTAS, DFAT</b>	<ol style="list-style-type: none"> <li>1. Ratification of the Convention in 2017</li> </ol>
4.4.2. Develop national and whole island plans to implement the EU Invasive Alien Species (IAS) Regulation and relevant sections of Ireland's EU (Birds and Natural Habitats) Regulations 2011 including: development and adoption of biosecurity plans in relevant state bodies; a Rapid Response Protocol for the island of Ireland; coordination and collation of invasive species surveillance and monitoring data; and work with Northern Ireland and UK authorities on invasive species of mutual concern	2017-2021	<b>DCHG, DAERA</b> NBDC, IFI, TII, Waterways Ireland, Local Authorities, local community groups, eNGOs and the Loughs Agency	<ol style="list-style-type: none"> <li>1. Number of state bodies with biosecurity plans</li> <li>2. Rapid Response protocol for Ireland developed</li> <li>3. Number of new IAS recorded and established</li> </ol>

## 4

## OBJECTIVE

Action	Timeframe	Lead/key partners	Performance indicators
4.4.3. Continue and enhance measures for eradication, where feasible, control and containment of invasive species	2017-2021	<b>IFI, DCHG, Local Authorities, TII, Waterways Ireland, National Botanic Gardens, local community groups</b>	1. Number of successfully controlled invasions
4.4.4. Encourage horticultural nurseries to produce native species, varieties and landraces from appropriate native sources for public and private sector plantings. Public bodies will endeavour to plant native species in order to reduce importation of non-native species, varieties and landraces	2017-2021	DAFM, Coillte, Local Authorities, TTI, DCHG, OPW	1. Number of new plantings that exclusively use native plants for landscaping 2. Quantities of nurseries supplying traceable documentation of Irish provenance plant material
4.4.5. Continue to produce Risk Assessments for potentially invasive non-native species	2017-2021	<b>NBDC, DCHG</b>	1. Number of Risk Assessments completed for potentially invasive non-native species
4.4.6. Publish legislation to address required provisions under the EU Regulation on invasive alien species (No. 1143/2014) and on responsibilities and powers regarding invasive alien species, giving IFI responsibility for aquatic invasive species	2017-2021	<b>DCHG, DCCAE, IFI, NBDC</b>	1. Legislation published and enacted
4.4.7 Work with horticultural and pet trades to prevent the introduction and spread of invasive alien species	2017-2021	<b>DCHG, NBDC</b>	1. Communication undertaken

**TARGET 4.5:  
IMPROVED ENFORCEMENT OF WILDLIFE LAW**

Action	Timeframe	Lead/key partners	Performance indicators
4.5.1. Enhance understanding and role of DAFM, An Garda Síochána, Revenue's Customs Service and the judiciary in enforcing Wildlife legislation, including provision of specific training and guidance	2017-2021	DCHG, An Garda Síochána, Revenue's Customs Service, DAFM, Dept of Justice	1. Number of training courses and trainees 2. Number of joint operations between listed bodies
4.5.2. Provide adequate training in Wildlife Crime detection and enforcement to all DCHG enforcement staff	2017-2021	<b>DCHG</b>	1. Number of training courses and trainees
4.5.3. Publish national CITES enforcement plan	2017	<b>DCHG</b> , An Garda Síochána, Revenue's Customs Service, DAFM	1. CITES enforcement plan published
4.5.4. Continue to enforce the Wildlife Acts and Regulations, in particular the Habitat Regulations	2017-2021	<b>DCHG</b> , An Garda Síochána, Revenue's Custom Service, EPA	1. Number of seizures/prosecutions 2. Number of targeted operations
4.5.5. Continue to enforce and report upon implementation of the European Communities (Environmental Liability) Regulations	2017-2021	<b>EPA</b>	1. Article 18 register maintained by EPA 2. Report to European Commission submitted
4.5.6. Train enforcement officers in other agencies that operate in the field on wildlife law	2017-2021	DAFM, Agricultural Inspectors, Fisheries Officers, EPA	1. Number of officers trained

**4**  
OBJECTIVE





## Conserve and restore biodiversity and ecosystem services in the marine environment

Ireland has a wealth of marine biodiversity from its inshore waters to the ocean depths and its marine Exclusive Economic Zone (EEZ) far exceeds its land area. Marine industries in Ireland are worth €1.3 billion annually to the Irish economy and provide around 17,000 jobs<sup>84</sup>. Ireland's tourism industry also relies on a clean and unspoilt marine and coastal environment.

The current state of Ireland's marine environment is highlighted in Ireland's reports on the Habitats Directive and the Marine Strategy Framework Directive (MSFD) in 2013. Of the marine habitats assessed under the Habitats Directive, only sandbanks and sea caves were assessed as being in 'favourable' status. Estuaries, tidal mudflats, large shallow inlets and bays were assessed as being in 'inadequate' status. Reefs (in particular deepwater reefs) and lagoons were in 'bad' status<sup>27</sup>. Further monitoring and reporting on the ecological status of Ireland's marine habitats will be forthcoming in 2018 under the MSFD and the Water Framework Directive (WFD), which will give a clearer picture of the state of Ireland's marine environment.

Pressures from human activities on Ireland's coastal and marine biodiversity and ecosystem services arise from a growing range of sources including nutrient and chemical discharge from human activities (for example from industry, agriculture, municipal wastewater) and through direct physical disturbance and habitat degradation from pollution, litter, man-made noise and light<sup>85</sup>. These pressures are mainly in transitional and coastal waters. Fishing impacts on both pelagic (i.e., water column) and seabed communities, particularly for species with low growth rates, soft substrates or cold water coral reefs, and some areas have been heavily impacted by this activity<sup>85</sup>. There are also concerns about the level of by-catch of birds

and marine mammals in certain fisheries. Fish populations are generally improving since reform of the Common Fisheries Policy (CFP) and more sustainable management of fish populations with the setting of Maximum Sustainable Yield (MSY) for commercial species<sup>86</sup>. There are also provisions in the revised CFP for the establishment and implementation of clear conservation measures where adverse environmental impacts from fishing are thought to occur, with a view to ensuring better marine ecosystem and biodiversity protection. Climate change and ocean acidification present considerable threats to the marine environment and may modify effects of other pressures and facilitate further establishment and spread of invasive species.

# 5

OBJECTIVE



Grey seal (Oliver Ó Cadhla) 



Exposed intertidal sandbanks in Wexford Harbour (Oliver Ó Cadhla) ↕

The protection of our marine ecosystems and compliance with national and international environmental legislation and full implementation of the MSFD, WFD, Habitats and Birds Directives and revised CFP will help achieve Ireland's Vision for Biodiversity (i.e. that Ireland's marine biodiversity and ecosystems are conserved and restored, delivering benefits essential for all sectors of society). The development and implementation of effective Marine Spatial Planning for Ireland's coastal zone and EEZ waters will assist in the identification and improved protection of threatened habitats and species in accordance with the EU Maritime Spatial Planning Directive (2014/89/EU)<sup>87</sup> and MSFD. The European Maritime Fisheries Fund (EMFF) contains measures such as investments in the protection and restoration of marine flora and fauna, improvements to the selectivity of fishing gear, and schemes to improve the environmental performance of aquaculture.

Aichi targets that these actions help us achieve:



Sustainable Development Goals that these actions help us achieve:



## Objective 5

### Conserve and restore biodiversity and ecosystem services in the marine environment

#### TARGET 5.1:

#### PROGRESS MADE TOWARDS GOOD ECOLOGICAL AND ENVIRONMENTAL STATUS OF MARINE WATERS OVER THE LIFETIME OF THIS PLAN

Action	Timeframe	Lead/key partners	Performance indicators
5.1.1. Develop and implement a Marine Spatial Plan for Ireland	2017-2021	Inter-Departmental Marine Coordination Group, DHPLG	<ol style="list-style-type: none"> <li>1. Reports on implementation of the Integrated Marine Plan (IMP)</li> <li>2. Compliance with EU Maritime Spatial Planning Directive (2014)</li> </ol>
5.1.2. Implement measures to achieve good ecological and environmental status of marine and coastal habitats as required by the Habitats, Directive, Water Framework Directive and Marine Strategy Framework Directive (MSFD) and in line with the OSPAR Convention (Convention for the protection of the marine environment in the North-East Atlantic)	2017-2021	<b>DHPLG, DCCAE, Marine Institute, DAFM, Irish Water, Local Authorities,</b> IFI, DCHG, EPA, An Taisce	<ol style="list-style-type: none"> <li>1. Progress on measures under MSFD</li> <li>2. River Basin Management Plans (RBMP) completed</li> <li>3. Number of Blue Flag beaches</li> <li>4. Number of Green Coast Awards</li> <li>5. Number of sites where untreated sewage is discharged</li> </ol>
5.1.3. Implement OSPAR recommendations on Habitats and Species	2017-2021	<b>DHPLG, DFA,</b> Marine Institute, DCHG	<ol style="list-style-type: none"> <li>1. Number of OSPAR recommendations implemented</li> </ol>
5.1.4. Promote the incorporation of ecological engineering features in new and existing structures such as coastal defences	2017-2021	<b>OPW, Local Authorities,</b> Research Institutes	<ol style="list-style-type: none"> <li>1. Number of new ecological engineering projects</li> </ol>

# 5

OBJECTIVE

# 5

## OBJECTIVE

### TARGET 5.2:

FISH STOCK LEVELS MAINTAINED OR RESTORED TO LEVELS THAT CAN PRODUCE MAXIMUM SUSTAINABLE YIELD, WHERE POSSIBLE, NO LATER THAN 2020

Action	Timeframe	Lead/key partners	Performance indicators
5.2.1. Continue to ensure the Common Fisheries Policy (CFP) and marine fisheries provide for the conservation of fish species and marine biodiversity	2017-2021	DAFM	<ol style="list-style-type: none"> <li>1. Number of fish stocks fished within their maximum sustainable yield (MSY)</li> <li>2. Adoption and implementation of CFP landings obligation and development of multi-annual plans.</li> <li>3. Programme in place to monitor accidental capture of non-target species</li> </ol>
5.2.2. Implement stock recovery plans for any fish stocks outside safe biological limits, and management plans to maintain other stocks at safe biological levels as determined by the standards for Good Environmental Status in the Marine Strategy Framework Directive	2017-2021	DAFM	<ol style="list-style-type: none"> <li>1. Number of over-exploited stocks in Irish waters</li> <li>2. Number of multi-annual plans in place</li> <li>3. Number of stocks within safe biological limits</li> </ol>
5.2.3. Adopt and implement provisions under Common Fisheries Policy (CFP) for the establishment of appropriate management measures (e.g. no-take zones) that conserve biodiversity and fish stock levels	2017-2021	DAFM	<ol style="list-style-type: none"> <li>1. Number of management actions e.g. no-take zones implemented</li> <li>2. CFP legislation on technical measures adopted and implemented</li> </ol>
5.2.4. Take concerted action to combat illegal, unreported and unregulated fishing	2017-2021	SFPA, IFI	<ol style="list-style-type: none"> <li>1. Number of patrols</li> <li>2. Number of interceptions</li> <li>3. Provision of annual reports detailing information on illegal, unreported and unregulated fishing</li> </ol>





# 6

## OBJECTIVE

### Expand and improve management of protected areas and species

Protected areas are central to conservation policy worldwide. They enable us to protect key habitats and species and provide refuges for the movement and migration of species. Globally, protected areas are believed to provide livelihoods for 1.1 billion people. Protected areas are the primary source of drinking water for over a third of the world's largest cities and play a major role in ensuring global food security. It has been estimated that investment in creating and managing protected areas across the world will yield returns of the order of 25:1 to 100:1. Governments around the world are increasingly looking at protected areas not only to conserve biodiversity but also to secure vital ecosystem services and enable adaptation to the impacts of climate change.

Several categories of protected areas exist in Ireland providing varying degrees of protection to the species and habitats they contain. The most significant and extensive are the Special Areas of Conservation (SACs) under the Habitats Directive and Special Protection Areas (SPAs) under the Birds Directive. To date, 430 SACs and 154 SPAs have been protected in Ireland covering 1,949,253 ha in total, of which 907,754 ha is terrestrial/freshwater. All Public Authorities who have a role in licensing or planning have legal obligations to ensure that activities under their remit do not have negative impacts on SACs and SPAs (see Objective 1).

The basic designation for nationally important areas for wildlife is Natural Heritage Area (NHA). Currently the only statutorily designated NHAs are for peatland sites. Based on the "Review of the Raised Bog NHA Network", published in 2014, it is intended that there will be a total of 127 statutorily designated peatland NHAs and 7 sites that are partly designated peatland NHAs.

The term 'proposed NHA' (or pNHA) originated with 1,235 sites that were advertised in 1994-1995. Subsequently, 308 became cSACs (candidate SACs) outright, a further 192 were subsumed as subsites into cSACs and/or SPAs, 100 became designated peatland NHAs, and 3 were delisted. This leaves 632 'stand-alone' pNHAs. Their importance is recognised in all County Development Plans and in other local area development plans.

Ireland's six National Parks are important resources for both wildlife conservation and for Ireland's tourism and recreation industries. Nature Reserves are important areas for wildlife that are protected under Ministerial order. Most of these are state-owned.

Significant progress was made during the period of the second Plan such as publishing a Prioritised Action Framework for the Natura 2000 network and setting conservation objectives for SACs. This work then fed into the development of agri-environment objectives for the current Rural Development Plan. Progress was made toward the conservation of peatland sites with publication of the National Peatlands Strategy in 2016 with the National Raised Bog SAC Management Plan 2017-2022 which outlines the way forward for conservation and restoration of important peatland sites, planned for publication shortly subject to government approval. Monitoring of habitats and species of EU interest has increased our knowledge of the status of these habitats and species and over the lifetime of this plan further progress will be made toward ensuring conservation of protected areas and species.

Ireland's existing network of Marine Protected Areas (MPAs) has an important role to play in the maintenance of biodiversity and achievement of Good Environmental Status (GES) by 2020 as required by the Marine Strategy Framework Directive. Currently some Natura 2000 sites designated under the Birds Directive or the Habitats Directive, and also meeting OSPAR objectives,









Fish pass (Lorcan Scott)

are part of that network but a further coherent and representative extension of this network of protected sites is envisaged to take place approximately within the lifetime of this Plan. Ongoing scientific research, marine spatial planning and biodiversity priorities will help to identify those sites that represent the best candidates for future MPA designation.

Species of conservation concern will be identified following the Red list process or noted as part of trend analysis (e.g. Curlew). A review will be undertaken

to determine which species would benefit from the development of a Threat Response Plan or Species Action Plan. Existing Plans will continue to be implemented.

Ongoing *ex-situ* conservation programmes will be supported as they are an important mechanism to assist the wild recovery of biodiversity.

Aichi Targets that these actions help us achieve:



Sustainable Development Goals that these actions help us to achieve:



*ex-situ* conservation of Bryum moss (Christine Campbell)



## Objective 6

### Expand and improve management of protected areas and species

#### TARGET 6.1: NATURA 2000 NETWORK DESIGNATED AND UNDER EFFECTIVE CONSERVATION MANAGEMENT BY 2020

Action	Timeframe	Lead/key partners	Performance indicators
6.1.1. Complete designation process for Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), in particular, for marine coastal and offshore SPAs	2017-2020	<b>DCHG</b>	1. Percentage of sites designated by Statutory Instrument
6.1.2. Develop and utilise licensing and consent systems to facilitate sustainable activities within Natura 2000 sites	2017-2020	DCHG, DAFM, DHCPLG, Local Authorities, EPA	1. Licensing and consent systems in place and compliant with Habitats and Birds Directives
6.1.3. Publish detailed site-specific conservation objectives for Natura 2000 sites	2017-2020	<b>DCHG</b>	1. Number/proportion of sites for which conservation objectives have been published
6.1.4. Manage National Parks and Nature Reserves to a high standard	2017-2020	<b>DCHG</b>	1. Status of habitats and species in these properties
6.1.5. Implement the National Peatland Strategy <sup>45</sup>	2017-2021	<b>DCHG</b> , BnM	1. Area of raised, lowland, and upland blanket bog under restoration 2. Number of peatland sites with restoration activities completed 3. Trends in status of peatland habitats
6.1.6. Implement the National Raised Bog Special Areas of Conservation (SAC) Management Plan (2017-2022) <sup>46</sup>	2017-2021	<b>DCHG</b> , BnM	1. Number of sites within raised bog SAC network where restoration measures have commenced/been undertaken 2. Area of raised bog under restoration 3. Sustainable and effective management system in place for raised bog SAC network 4. Successful completion of Raised bog LIFE project on 12 SAC sites

# 6

OBJECTIVE

# 6

## OBJECTIVE

Action	Timeframe	Lead/key partners	Performance indicators
6.1.7. Implement the conservation measures necessary to achieve the published conservation objectives for Natura 2000 sites. Develop and implement additional measures as necessary to achieve favourable conservation status both nationally and at site level	2017-2021	<b>DCHG</b> , DAFM, Teagasc, EPA, Local Authorities, other public bodies who own/manage SACs/ SPAs	<ol style="list-style-type: none"> <li>1. Number of farms implementing appropriate agri-environment measures in protected and other targeted areas</li> <li>2. Number of relevant measures undertaken by forestry, freshwater fisheries and water sector</li> </ol>
6.1.8. Implement measures to ensure that, taking account of climate change, there are no significant adverse effects from marine fisheries and aquaculture in and adjacent to Natura 2000 sites	2021	<b>DAFM</b> , Marine Institute	<ol style="list-style-type: none"> <li>1. Number of habitats and species of EU interest reported to be impacted by fisheries/aquaculture</li> <li>2. Mitigation plans and other conservation measures for marine fisheries in and adjacent to Natura 2000 sites as required</li> </ol>
6.1.9. Review and update the Prioritised Action Framework for Natura 2000	2018	<b>DCHG</b>	<ol style="list-style-type: none"> <li>1. Prioritised Action Framework updated</li> </ol>
6.1.10. Continue to collect information on sites to be considered towards the protection and enhancement of the Natural Heritage Area network	2017-2021	<b>DCHG</b>	<ol style="list-style-type: none"> <li>1. Number of sites assessed</li> </ol>

### TARGET 6.2:

#### SUFFICIENCY, COHERENCE, CONNECTIVITY, AND RESILIENCE OF THE PROTECTED AREAS NETWORK SUBSTANTIALLY ENHANCED BY 2020

Action	Timeframe	Lead/key partners	Performance indicators
6.2.1. Increase connectivity of the protected areas network using appropriate buffer zones, corridors, stepping stones and/or flyways	2021	DCHG, Local Authorities, BnM, eNGOs, DAFM	<ol style="list-style-type: none"> <li>1. Number/extent of features established to improve connectivity and resilience of protected areas</li> <li>2. Management activities in place for increasing connectivity where appropriate</li> <li>3. Number of County Development Plans with policies on connectivity</li> </ol>

Action	Timeframe	Lead/key partners	Performance indicators
6.2.2. Extend the Marine Protected Area network	2021	DHPLG, DCHG, DCCAIE	1. Number of additional areas designated

**TARGET 6.3:**

**NO PROTECTED SPECIES IN WORSENING STATUS BY 2020; MAJORITY SPECIES IN, OR MOVING TOWARDS, FAVOURABLE STATUS BY 2020**

Action	Timeframe	Lead/key partners	Performance indicators
6.3.1. Draw up threat response plans for selected species of conservation concern and for bird species identified in the 2017 EU Action Plan for nature, people and the economy	2017-2021	DCHG	1. Number of threat response plans developed
6.3.2. Set up a Curlew task force	2017	DCHG, DAFM, BWI, relevant civil society stakeholders	1. Action Plan initiated
6.3.3. Develop, adopt and implement restoration programmes for Lamprey, Shad species, Salmon, Sea trout and Eels. Improve passage of migratory fish species and review effectiveness of existing passes and impacts of existing and potential hydroelectric dams and address other barriers to fish movement. Put in place traceability scheme for Eel	2017-2020	IFI, Marine Institute, Forest Service, Irish Water, OPW, ESB	1. Management plans published for Salmon and Sea Trout 2. Traceability scheme for Eel in place 3. Number of effective fish passes 4. Status of selected fish species
6.3.4. Implement species action plans, including for: Red Squirrel, Red Grouse, Grey Partridge, Hen Harrier and reintroduced raptors and initiate further management actions as necessary	2017-2021	DCHG, GET, IGPCT, BWI, DAFM	1. Population levels of target species 2. Number of management actions initiated in response to population trends
6.3.5. Identify and subsequently fill critical gaps in <i>ex-situ</i> conservation programmes for wild species, in line with best practice	2017-2021	DAFM, DCHG, Fota Wildlife Park, Tayto Wildlife Park, National Botanic Gardens, Dublin Zoo, BWI	1. Number of threatened species in <i>ex-situ</i> conservation





# 7

OBJECTIVE

## Strengthen international governance for biodiversity and ecosystem services

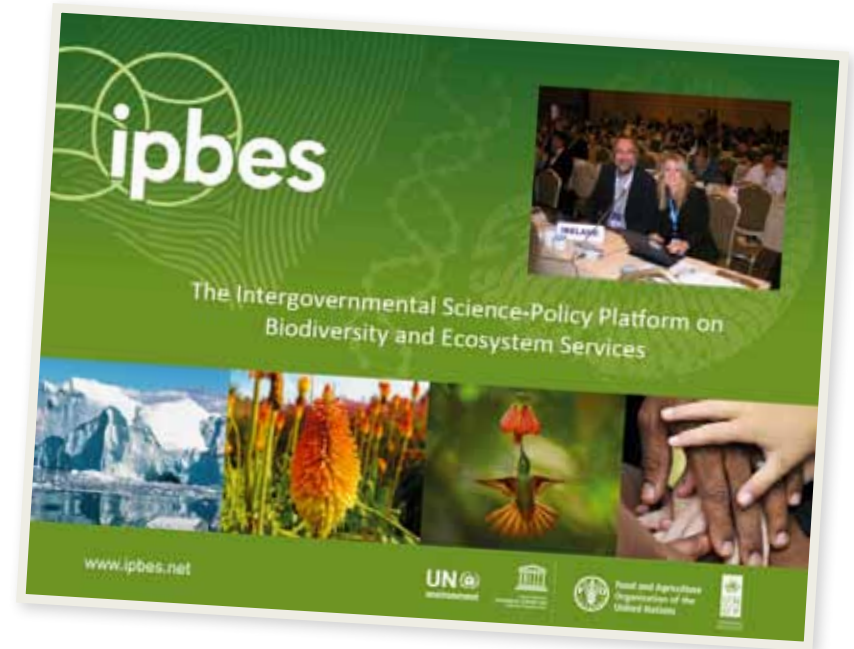
An all-Ireland approach is necessary to safeguard biodiversity on this island. Biodiversity does not recognise political boundaries. Ireland's land border with Northern Ireland and marine border with the UK results in many species moving between the two territories. There is already substantial North/South dialogue and co-operation on biodiversity issues and it is envisaged that this will continue, as reflected in the actions in this chapter and previous chapters, including for tackling wildlife crime and fulfilling international commitments.

In addition to the actions set out above to conserve biodiversity in Ireland, there is also a role to be played globally through: the overseas aid programme; minimising trade in endangered species; reducing trade in commodities in cases where production causes damage to biodiversity; Ireland's involvement in important global issues such as climate change and access to genetic resources; and acting as an advocate for biodiversity in international forums.

The UN Convention on Biological Diversity's (CBD) Strategic Plan for Biodiversity 2011-2020, including the Aichi Biodiversity Targets, focused international efforts to alleviate global biodiversity decline. The fourth Global Biodiversity Outlook (GBO4) published in 2014 provided a mid-term assessment of implementation of the Strategic Plan and its targets. It reports that there has been significant progress towards meeting some components of the majority of these targets<sup>1</sup>. However, in most cases this progress will not be sufficient to achieve the targets set for 2020 and additional action is required to keep the Strategic Plan for Biodiversity 2011-2020 on course<sup>1</sup>.

The major pressures on biodiversity globally include: loss, degradation and fragmentation of natural habitats; overexploitation of biological resources; pollution; the impacts of invasive alien species on ecosystems and the services they provide to people; and climate change and the acidification of the oceans<sup>1</sup>. Some ecosystems are being pushed towards critical thresholds or tipping points. If these thresholds are passed, there is a real risk of dramatic loss of biodiversity and degradation of a broad range of services on which people depend for their livelihoods and well-being.

Through its Overseas Development Aid Programme, administered by Irish Aid, Ireland has the opportunity to widen the scope of its activities to embrace biodiversity conservation, and in so doing, take advantage of the skills base in life sciences that Ireland possesses.



# 7

## OBJECTIVE

Ireland has signed and ratified a number of international conventions, treaties, protocols and other agreements that seek to provide a global response and approach to protecting biodiversity and ecosystem services including: the CBD, the UN Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Bonn Convention (on conservation of migratory species of wild animals) (CMS), the Global Strategy for Plant Conservation (GSPC), OSPAR Convention (North-East Atlantic), International Convention for the Regulation of Whaling, and the Ramsar Convention (on wetlands). Ireland is also a member of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), a Party to the UN Framework Convention on Climate Change and has adopted the Sustainable Development Goals (SDG). Ireland is implementing the Lima Action Plan for UNESCO's Man and the Biosphere Programme and its World Network of Biosphere Reserves (2016-2025). Meeting the Aichi Biodiversity Targets would contribute significantly to broader global priorities addressed by the post-2015 development agenda; namely, reducing hunger and poverty, improving human health; and ensuring a sustainable supply of energy, food and clean water. The SDGs reaffirm the importance of biodiversity for human well-being and apply equally to developed countries, such as Ireland, and undeveloped countries.

Aichi targets that these actions help us achieve:



Sustainable Development Goals that these actions help us achieve:



Rhino horn seized at Dublin Airport 

## Objective 7

### Strengthen international governance for biodiversity and ecosystem services

#### TARGET 7.1: STRENGTHENED SUPPORT FOR BIODIVERSITY AND ECOSYSTEM SERVICES IN EXTERNAL ASSISTANCE

Action	Timeframe	Lead/key partners	Performance indicators
7.1.1. Biodiversity will be made a component of Ireland's development cooperation programme; and support to, and cooperation with, developing countries shall take into account biological diversity through the application of the CBD	2017-2021	DFAT	1. Amount allocated to biodiversity components and biodiversity specific Irish Aid grants



#### TARGET 7.2: ENHANCED CONTRIBUTION TO INTERNATIONAL GOVERNANCE FOR BIODIVERSITY AND ECOSYSTEM SERVICES

Action	Timeframe	Lead/key partners	Performance indicators
7.2.1. International agreements (including CBD, CITES, CMS, OSPAR, ICES, GSPC, Ramsar, IPBES and NASCO) will be serviced to ensure that Ireland plays a role in the future of international biodiversity policy, particularly in the area of mainstreaming biodiversity and ecosystem services across all sectors	2017-2021	DCHG, DHPLG, DFAT, Academia and Research Organisations	1. Number of participants at meetings 2. Reporting obligations fulfilled
7.2.2. Continue to contribute data and information to European and international networks (including Global Biodiversity Information Facility, and European Environment Agency) to support conservation research and policy	2017-2021	DCHG, NBDC	1. Number of networks provided with data from Ireland

# 7

OBJECTIVE

## TARGET 7.3: ENHANCED COOPERATION WITH NORTHERN IRELAND ON COMMON ISSUES

Action	Timeframe	Lead/key partners	Performance indicators
7.3.1. Continue communication and harmonized action at an all-island level on issues of common concern including for the implementation of international legislation and tackling wildlife crime	2017-2021	DCHG, DAERA	1. Number of all-island initiatives
7.3.2. Cooperation and coordination (where possible and relevant) on Species and Habitat surveillance initiatives under the Habitats and Birds Directives (e.g., All-Ireland seal surveys, All-Ireland cetacean strandings scheme, All-Ireland Red List for Birds (BoCCI), All-Ireland Brent Research Group)	2017-2021	DCHG, DAERA, British/Irish Council, NBDC, CEDaR, eNGOs	1. Number of long-term all-island monitoring schemes
7.3.3. Further cooperation on and co-ordination of All-Island Species Protection Plans and Red List assessments	2017-2021	DCHG, DAERA	1. Number of new plans developed 2. Number of actions undertaken for existing plans 3. Number of all-Ireland Red List assessments undertaken

## TARGET 7.4: REDUCTION IN THE IMPACT OF IRISH TRADE ON GLOBAL BIODIVERSITY AND ECOSYSTEM SERVICES

Action	Timeframe	Lead/key partners	Performance indicators
7.4.1. Adopt measures to significantly reduce negative impacts of trade on biodiversity and to enhance positive impacts	2017-2021	DCHG, DFAT, DAFM	1. Knowledge of the pressures placed on biodiversity by trading activity and trade routing 2. Measures implemented to reduce or offset those pressures and their impacts
7.4.2. Ensure CITES Regulations are effectively implemented and enforced	2017-2021	DCHG, Revenue's Custom Service	1. Annual reports submitted 2. Biennial reports submitted
7.4.3. Implement legislation to control imports of illegally harvested timber into Ireland. Facilitate exchange of best practice in private and public sector procurement policies favouring wood products from sustainable sources, including certifiable wood products	2017-2021	DAFM, DFAT	1. Legislation drafted and enacted
7.4.4. Investigate potential measures to prevent, minimise and/or mitigate deforestation due to non-wood imports	2017-2021	DAFM, Bord Bia, DFAT, BnM	1. Number of measures identified





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## APPENDIX I LIST OF ACRONYMS

AA	Appropriate Assessment	DFAT	Department of Foreign Affairs and Trade
AES	Agri-environment scheme	DHPLG	Department of Housing, Planning, Community and Local Government
BCI	Bat Conservation Ireland	DPER	Department of Public Expenditure and Reform
BITCI	Business in the Community Ireland	DTTAS	Department of Transport, Tourism and Sport
BnM	Bord na Móna	ESB	Electricity Supply Board
BWI	BirdWatch Ireland	EIFAAC	European Inland Fisheries and Aquaculture Advisory Commission
BWG	Biodiversity Working Group	EMFF	European Maritime and Fisheries Fund
CAP	Common Agricultural Policy	EPA	Environmental Protection Agency
CBD	Convention on Biological Diversity	GES	Good Environmental Status
CEDaR	Centre for Environmental Data and Recording	GET	Golden Eagle Trust
CFP	Common Fisheries Policy	GLAS	Green, Low-Carbon, Agri-environment Scheme
CIEEM	Chartered Institute of Ecology and Environmental Management	GSPC	Global Strategy for Plant Conservation
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora	HLAI	Hedge Laying Association of Ireland
CMS	Convention on Migratory Species	HOOW	Harnessing our Ocean Wealth
COFORD	Council for Forest Research and Development	ICES	International Council for the Exploration of the Sea
CSO	Central Statistics Office	IFA	Irish Farmers Association
CWF	Community Wetlands Forum	IFI	Inland Fisheries Ireland
DAERA	Department of Agriculture Environment and Rural Affairs	IFNC	Irish Forum on Natural Capital
DAFM	Department of Agriculture, Food and the Marine	IGPCT	Irish Grey Partridge Conservation Trust
DCHG	Department of Culture, Heritage and the Gaeltacht	INFOMAR	INtegrated Mapping FOr the Sustainable Development of Ireland's MARine Resource
DBBP	Dublin Bay Biosphere Partnership	IOOA	Irish Offshore Operators' Association
DCCAIE	Department of Communications, Climate Action and Environment	IPCC	Irish Peatland Conservation Council
DES	Department of Education and Skills		

IRL	Irish Rural Link
IPBES	Intergovernmental Platform on Biodiversity and Ecosystem Services
ISME	Irish Small and Medium Enterprises Association
IWDG	Irish Whale and Dolphin Group
KBA	Key Biodiversity Area
LAWCO	Local Authorities Water and Communities Office
LLAES	Locally led agri-environmental schemes
MSFD	Marine Strategy Framework Directive
MSY	Maximum Sustainable Yield
NASCO	North Atlantic Salmon Conservation Organisation
NBDC	National Biodiversity Data Centre
NESC	National Economic and Social Council
NFQ	National Framework of Qualifications
NPBR	National Platform for Biodiversity Research
NPRF	National Pension Reserve Fund
NPWS	National Parks and Wildlife Service
NGO	Non-governmental organisation
OPW	Office of Public Works
OSI	Ordnance Survey Ireland
OSPAR	Convention for the protection of the marine environment in the North-East Atlantic
RBMP	River Basin Management Plan
RDP	Rural Development Programme
SAC	Special Area of Conservation
SAHFOS	Sir Alister Hardy Foundation for Ocean Science
SEA	Strategic Environmental Assessment
SECAD	South & East Cork Area Development

SEEA	System for Environmental-Economic Accounting
SFPA	Sea Fisheries Protection Authority
SPA	Special Protection Area
TII	Transport Infrastructure Ireland
WFD	Water Framework Directive



Small Blue butterfly (Brian Nelson) 

## APPENDIX II MEMBERS OF THE BIODIVERSITY FORUM, BIODIVERSITY WORKING GROUP AND NATIONAL BIODIVERSITY ACTION PLAN CO-ORDINATION TEAM

### Biodiversity Forum

Yvonne Buckley, Chair  
Anja Murray, Irish Environmental Network  
Fintan Kelly, Irish Environmental Network  
Joe Caffrey, Inland Fisheries Ireland (retired)  
Ken Bradley, Department of the Environment (Northern Ireland)  
Oonagh Duggan, BirdWatch Ireland  
Orla Casey, IBEC  
Paul Giller, University College, Cork  
Paul Harris, Bank of Ireland, Global Markets  
Séamus Boland, Irish Rural Link  
Sharon Parr, Burren LIFE  
Simon Berrow, Irish Whale and Dolphin Group  
Siobhan Ryan, Heritage Council-Sligo  
Tasman Crowe, University College Dublin

### National Biodiversity Action Plan Co-ordination Team

Alan Moore  
Ciaran O’Keeffe  
Deirdre Lynn  
Eugenie Regan  
Mary Ann O’Dwyer

### Biodiversity Working Group 2017

Alan Moore, Department of Culture, Heritage and the Gaeltacht  
Andy Fanning, Environmental Protection Agency  
Anthony Donnelly, Department of Transport, Tourism and Sport  
Brian Deegan, Irish Water  
Cathal Gallagher, Inland Fisheries Ireland  
Catherine Keena, Teagasc  
Cian Ó Lionáin, Department of Housing, Planning and Local Government  
Ciaran O’Keeffe, Department of Culture, Heritage and the Gaeltacht  
Deirdre Lynn, Department of Culture, Heritage and the Gaeltacht  
Donal Cronin, Department of Housing, Planning and Local Government  
Francis O Beirn, Marine Institute  
Jerome Walsh, Department of Agriculture, Food and the Marine  
Kevin Collins, Department of Agriculture, Food and the Marine  
Liam Lysaght, National Biodiversity Data Centre  
Matthew Jebb, National Botanic Gardens  
Matthew Nyland, An Garda Síochána  
Nathy Gilligan, Office of Public Works  
Patricia Ballantine, Department of Public Expenditure and Reform  
Yvonne Buckley, Trinity College Dublin



## APPENDIX III EU BIODIVERSITY STRATEGY

### Targets in the EU's Biodiversity Strategy

In 2011 the European Commission adopted a Communication Strategy for Biodiversity (the EU's Biodiversity Strategy 2011-2020), which was subsequently supported by the Council and the European Parliament. The EU's strategy consists of a vision for biodiversity in 2050 and a headline target of halting the loss of biodiversity by 2020. The strategy also sets out six targets with associated specific initiatives.

#### TARGET 1

##### ***Fully implement the Birds and Habitats Directives***

To halt the deterioration in the status of all species and habitats covered by EU nature legislation and achieve a significant and measurable improvement in their status so that, by 2020, compared to current assessments: i) 100% more habitat assessments and 50% more species assessments under the Habitats Directive show an improved conservation status; and ii) 50% more species assessments under the Birds Directive show a secure or improved status.

#### TARGET 2

##### ***Maintain and restore ecosystems and their services***

By 2020, ecosystems and their services are maintained and enhanced by establishing green infrastructure and restoring at least 15% of degraded ecosystems.

#### TARGET 3

##### ***Increase the contribution of agriculture and forestry to maintaining and enhancing biodiversity***

3A) Agriculture: By 2020, maximise areas under agriculture across grasslands, arable land and permanent crops that are covered by biodiversity-related measures under the CAP so as to ensure the conservation of biodiversity and to bring about a measurable improvement in the conservation status of species and habitats that depend on or are affected by agriculture and in the provision of ecosystem services as compared to the EU2010 Baseline, thus contributing to enhance sustainable management.

3B) Forests: By 2020, Forest Management Plans or equivalent instruments, in line with Sustainable Forest Management (SFM), are in place for all forests that are publicly owned and for forest holdings above a certain size (to be defined by the Member States or regions and communicated in their Rural Development Programmes) that receive funding under the EU Rural Development Policy so as to bring about a measurable improvement in the conservation status of species and habitats that depend on or are affected by forestry and in the provision of related ecosystem services as compared to the EU 2010 Baseline.

#### **TARGET 4**

##### ***Ensure the sustainable use of fisheries resources***

Achieve Maximum Sustainable Yield by 2015. Achieve a population age and size distribution indicative of a healthy stock, through fisheries management with no significant adverse impacts on other stocks, species and ecosystems, in support of achieving Good Environmental Status by 2020, as required under the Marine Strategy Framework Directive.

#### **TARGET 5**

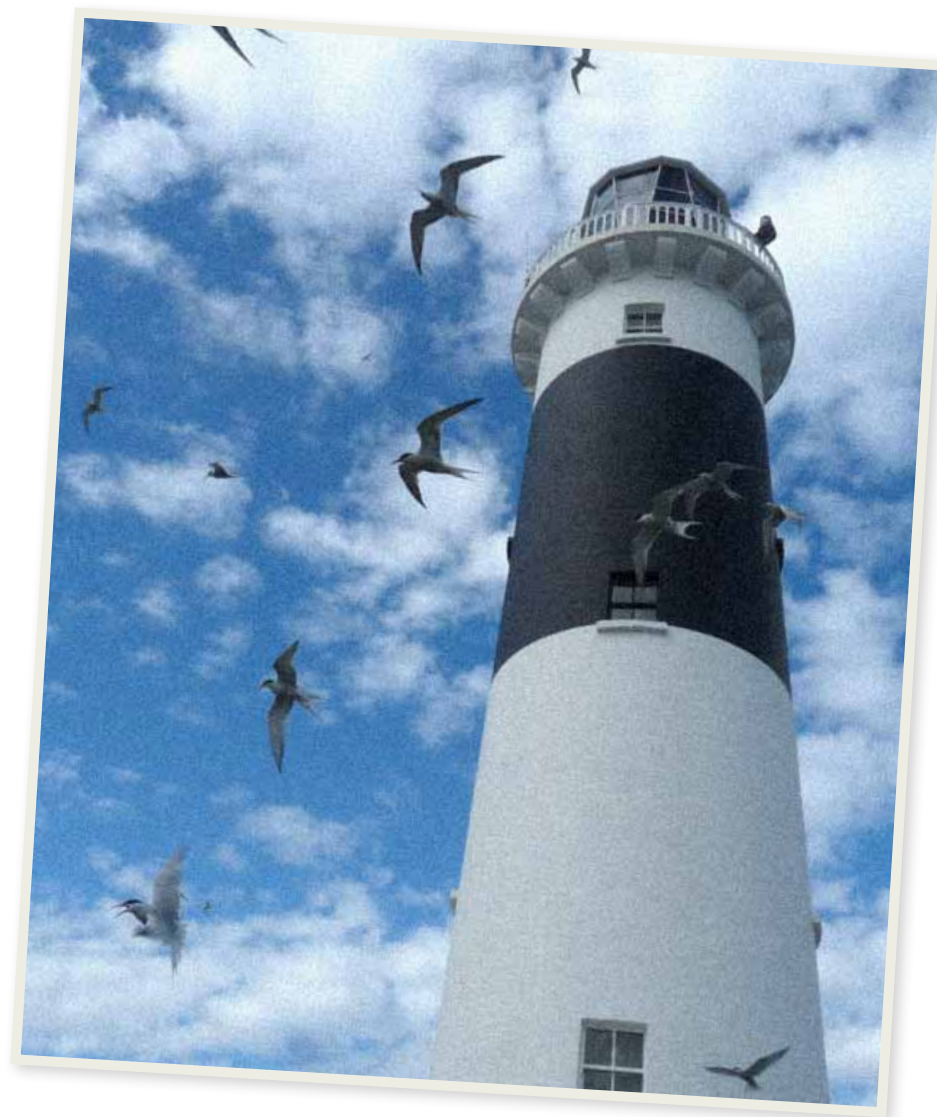
##### ***Combat invasive alien species***

By 2020, invasive alien species and their pathways are identified and prioritised, priority species are controlled or eradicated, and pathways are managed to prevent the introduction and establishment of new invasive alien species.

#### **TARGET 6**

##### ***Help avert global biodiversity loss***

By 2020, the EU has stepped up its contribution to averting global biodiversity loss.



Rockabill , Co Dublin – very successful tern conservation project (Ciaran O'Keefe) ↗

## APPENDIX IV CBD STRATEGIC PLAN FOR BIODIVERSITY AND AICHI BIODIVERSITY TARGETS

In 2010, in Nagoya, Aichi Prefecture, Japan, the CBD adopted a **revised and updated Strategic Plan for Biodiversity**, including the Aichi Biodiversity Targets, for the 2011–2020 period. The plan provides an overarching framework on biodiversity, not only for the biodiversity-related conventions, but for the entire United Nations system and all other partners engaged in biodiversity management and policy development.

Parties agreed to translate this overarching international framework into revised and updated national biodiversity strategies and action plans within two years. Additionally, the Conference of the Parties decided that the fifth national reports, due by 31 March 2014, should focus on the implementation of the 2011–2020 Strategic Plan and progress achieved towards the Aichi Biodiversity Targets.

### Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society



#### TARGET 1

By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.



#### TARGET 2

By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.



#### TARGET 3

By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.



#### TARGET 4

By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

## Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use



### TARGET 5

By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.



### TARGET 6

By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.



### TARGET 7

By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.



### TARGET 8

By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.



### TARGET 9

By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.



### TARGET 10

By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.

## Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity



### TARGET 11

By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.



### TARGET 12

By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.



### TARGET 13

By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.



## Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services



### TARGET 14

By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.



### TARGET 15

By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.



### TARGET 16

By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.

## Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building



### TARGET 17

By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.



### TARGET 18

By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.



### TARGET 19

By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.



### TARGET 20

By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resources needs assessments to be developed and reported by Parties.

## APPENDIX V SUSTAINABLE DEVELOPMENT GOALS



### GOAL 1

End poverty in all its forms everywhere



### GOAL 2

End hunger, achieve food security and improved nutrition and promote sustainable agriculture



### GOAL 3

Ensure healthy lives and promote well-being for all at all ages



### GOAL 4

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all



### GOAL 5

Achieve gender equality and empower all women and girls



### GOAL 6

Ensure availability and sustainable management of water and sanitation for all



### GOAL 7

Ensure access to affordable, reliable, sustainable and modern energy for all



### GOAL 8

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all



### GOAL 9

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation



### GOAL 10

Reduce inequality within and among countries



### GOAL 11

Make cities and human settlements inclusive, safe, resilient and sustainable



### GOAL 12

Ensure sustainable consumption and production patterns



### GOAL 13

Take urgent action to combat climate change and its impacts



### GOAL 14

Conserve and sustainably use the oceans, seas and marine resources for sustainable development



### GOAL 15

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss



### GOAL 16

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels



### GOAL 17

Strengthen the means of implementation and revitalize the global partnership for sustainable development







