

Interim Review of the Implementation of the National Biodiversity Action Plan 2017-2021



February 2020



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

National Biodiversity Action Plan 2017-2021

Ireland's Vision for Biodiversity

“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.”

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CONTENTS

1. Executive Summary	3
2. Introduction	4
3. Highlights for Biodiversity in this timeframe	5
4. Interim Review of the Implementation of the National Biodiversity Action Plan 2017-2021	6
4.1 Overview of Status of Implementation	6
4.2 Key Achievements of Plan	8
4.3 Summary Interim Update by Action	13
Objective 1 Mainstream biodiversity into decision-making across all sectors	13
Objective 2 Strengthen the knowledge base for conservation, management and sustainable use of biodiversity	22
Objective 3 Increase awareness and appreciation of biodiversity and ecosystem services	32
Objective 4 Conserve and restore biodiversity and ecosystem services in the wider countryside	39
Objective 5 Conserve and restore biodiversity and ecosystem services in the marine environment	54
Objective 6 Expand and improve management of protected areas and species	58
Objective 7 Strengthen international governance for biodiversity and ecosystem services	66
5. Next steps	70
6. Glossary of Abbreviations	72
7. Members of the Biodiversity Working Group 2017-2021	74
8. Biodiversity Forum	75
9. References	76

1. EXECUTIVE SUMMARY

The recent 2019 Global assessment report on biodiversity and ecosystem services undertaken by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services reported that biodiversity loss continues in an unprecedented manner. Land, ocean, atmosphere and biosphere are being altered to an unparalleled degree. Unless action is taken to reduce the intensity of drivers of biodiversity loss, there will be a further acceleration in the global rate of species extinction, which is already at least tens to hundreds of times higher than it has averaged over the past 10 million years. In Ireland, 85% of EU protected habitats are reported as being in Unfavourable status with 46% demonstrating ongoing declines. The main drivers of this decline are agricultural practices which are negatively impacting over 70% of habitats, particularly ecologically unsuitable grazing, abandonment and pollution. Of particular note are declines in peatlands and grasslands, and some of the marine habitats. There is decline of 14% reported for bee species. There has been a 2.6% decline in the number of surface waters assessed as being in satisfactory ecological health. Short term assessments also undertaken for breeding and a selection of wintering bird populations reported declines of 18% and 52% respectively.

Ireland's 3rd National Biodiversity Action Plan 2017-2021 is an over-arching Government policy that is comprised of a suite of Objectives, Targets and Actions that aim to achieve Ireland's Vision for Biodiversity 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".

Many positive actions for Biodiversity have been taken since 2017. There has been considerable increase in awareness of, engagement in and collaboration on biodiversity issues. The 2019 National Biodiversity Conference engaged over 500 delegates across sectors. The "Seeds for Nature" Conference Charter listed commitments across government and business to step up implementation of this Plan. DCHG have funded local biodiversity action through the Local Authority Heritage Officers, while Community Foundation Ireland funded the development of community based biodiversity plans. The National Biodiversity Data Centre continue to expand their citizen science programmes and lead on the implementation of the All Ireland Pollinator Plan, which has captured hearts and minds across many sectors. The National Botanic Gardens are expanding ex situ conservation efforts. DAFM has engaged business to support planting under the Native Woodland Establishment Scheme. The EPA continue to fund large scale research programmes in ecosystem valuation and accounting and also on the impacts of climate change on biodiversity. Most importantly, EU co-funding is contributing to restoration efforts in peatlands and more sustainable agricultural and fishing practices, resulting in greater collaboration across sectors. These efforts demonstrate that we stand together for nature and this interim review provides detail on how we are progressing with achieving our collective vision.

2. INTRODUCTION

As a Party to the UN Convention on Biological Diversity (CBD), Ireland has made a commitment to prepare Action Plans towards the achievement of the Convention's targets: namely to secure the conservation of biological diversity; sustainable use of its components; and the equitable sharing of the benefits arising out of the utilisation of genetic resources. Ireland's 3rd National Biodiversity Action Plan (NBAP) 2017-2021, arising from these commitments, sets out actions through which a range of government, civil and private sectors will undertake to achieve Ireland's Vision for Biodiversity 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".

The NBAP contains 119 actions under a framework of seven strategic objectives. These encompass mainstreaming biodiversity into decision making across all sectors; strengthening the knowledge base for the conservation; increasing awareness and appreciation of biodiversity and ecosystem services; conserving and restoring biodiversity and ecosystem services in the wider countryside; conserving and restoring ecosystem services in the marine environment; expanding and improving management of protected areas and species; and strengthening international governance for biodiversity and ecosystem services.

The Department of Culture, Heritage and the Gaeltacht (DCHG) is the official body responsible for oversight of the implementation of the NBAP 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 (Section 7). The BWG meets at least twice per annum. In 2019, submissions were sought from members of the BWG on progress with implementation of relevant Actions.

This Interim Review also drew from Ireland's 2019 6th National Report to the CBD. This 4-yearly report reviewed Ireland's progress in relation to the five Strategic Goals and 20 Aichi Biodiversity Targets set by the CBD in 2010 for implementation by 2020, and also reviewed Ireland's progress on achieving the Targets in the NBAP.

While every effort has been made to comprehensively summarise the progress with all actions, it should be noted that there are actions being implemented to conserve Biodiversity across society which may have been over-looked by the BWG. The data were not available to make an all-inclusive indicator based-analysis. DCHG will continue to pursue information to ensure we have a more informed stock-take on our endeavours to implement this Plan.

3. HIGHLIGHTS FOR BIODIVERSITY IN THIS TIMEFRAME

During the timeframe of this Plan, there have been many positive developments and a shift in public opinion towards a greater appreciation of biodiversity. Some general highlights from the period 2017 – 2021 include:

- The success of the EU LIFE Programme in Ireland, which has been a major source of support for the conservation, management and restoration of habitats to support threatened and protected species. The Raptor LIFE (2015-2019) project is working to connect and restore habitats for Hen harrier, Merlin, Atlantic salmon and Brook Lamprey. Kerry LIFE is focused on conservation of the critically endangered Freshwater Pearl Mussel through catchment-scale measures. The Living Bog project is carrying out conservation work on raised bogs. Roseate tern LIFE implements special conservation measures, including vegetation clearance and deployment of nest boxes on Rockabill island. More recent successes in securing EU LIFE funding include LIFE Atlantic Crayfish, LIFE Wild Atlantic Nature and Waters of LIFE, which are all due to start in January 2020.
- DAFM is funding over 23 “European Innovation Partnership” projects. Many are ground-up projects, developed by and with farmers and they will reap biodiversity benefits for species including hen harrier, freshwater pearl mussel, corncrake and biodiversity on a range of types of farmland, from hill farms to high-intensity farms.
- The Native Woodland Conservation scheme supports the restoration of existing native woodland and the targeted conversion of conifer stands into native woodland.
- The Afforestation Grant and Premium Scheme includes 12 different Grant and Premium Categories supporting the planting of a wide range of forest types, from commercial conifers to native woodland to agro-forestry, to enable the design of diverse multi-purpose forests.
- The Green Low Carbon Agri-environment Scheme implemented by DAFM has approx. 49,000 farmer participants delivering on environmental objectives, including sensitively managing important habitats and water quality on lands of conservation value.
- A legal onus on public bodies to have regard to policies, guidelines, and objectives to promote the conservation of biodiversity and the National Biodiversity Action Plan is included in the Wildlife (Amendment) Bill which was debated by the Seanad.
- The formal designation of 270 SACs and 150 SPAs.
- The NPWS Farm Plan Scheme and related schemes contribution to the conservation of protected species on agricultural land e.g. Corncrake, breeding/wintering geese and waders, and Natterjack Toad.
- National initiatives to reverse the decline of Curlew have included the setting up of a National Curlew Task Force and a NPWS Curlew Conservation Programme. Long-standing reintroduction programmes for raptors have continued for Golden eagle, White-tailed eagle and Red kite.
- Doubling of the funding to Local Authorities for local Biodiversity Action.
- The Community Foundation Ireland have initiated a Biodiversity Fund that links ecologists with local communities to draw up local Biodiversity Plans. This initiative is supported by DCHG.
- The total biomass of commercial fish and shellfish in the Celtic Sea has been recovering since the period of highest fishing. By-catch is being minimised by new landing obligations for some stocks to ensure that all fish caught are counted against quota.

- An EU deep sea trawling ban applies below 800m for rolling gears, which will protect deep sea corals. A ban on inshore trawling by large boats is effective from January 1st 2020.
- The publication of a Biodiversity Sectoral Climate Change Adaptation Plan to identify adaptation options that will help sectors to protect biodiversity and ecosystem services from the impacts of changing climate.
- Funding for research into the impact of Climate Change on Biodiversity.
- The publication of a Biodiversity Expenditure Review and further research into a Financial Needs Assessment for Biodiversity.
- Assessments of Habitats and Species listed in the Habitats Directive and Bird species listed on the Birds Directive submitted in 2019.
- Coillte and Bord na Móna made substantial commitments on work for biodiversity in their land holdings.

4. INTERIM REVIEW OF THE IMPLEMENTATION OF THE NATIONAL BIODIVERSITY ACTION PLAN 2017-2021

This report is the interim review on implementation of Ireland's 3rd National Biodiversity Action Plan. It outlines progress and the status in relation to all of the outlined Actions. The review involved consultation with the public bodies in the Biodiversity Working Group of the National Biodiversity Action Plan 2017 - 2021.

In undertaking this interim review, where possible, the current status of progress on each action was provided directly from the relevant public bodies responsible for the implementation of that action. The assessment of progress on each action, although subjective, was achieved through consensus with the respective agencies and the rapporteurs of the Interim Review.

Many of the actions are open ended and progress continues, for example in the area of monitoring, setting conservation objectives for Natura sites and delivering biodiversity benefits through other Government programmes, such as forestry. Some areas have unfortunately regressed, for example the disbandment of Invasive Species Ireland and the inactivity of the Deer Management Forum has resulted in limited progress with joined up thinking on tackling invasive species. However, engagement across other fora and sectors has improved considerably with more awareness in schools, engagement across communities and increased collaboration across sectors which will reap dividends for biodiversity into the future.

4.1 OVERVIEW OF STATUS OF IMPLEMENTATION

Overall, this Interim Review concludes that of the 119 Actions, 8 are implemented, 98 are ongoing and, for 13, there has been limited progress. It should be noted that 88 of the 119 actions are of an ongoing or open-ended nature and that the assessment of the level of implementation was achieved through consensus with the relevant agencies.

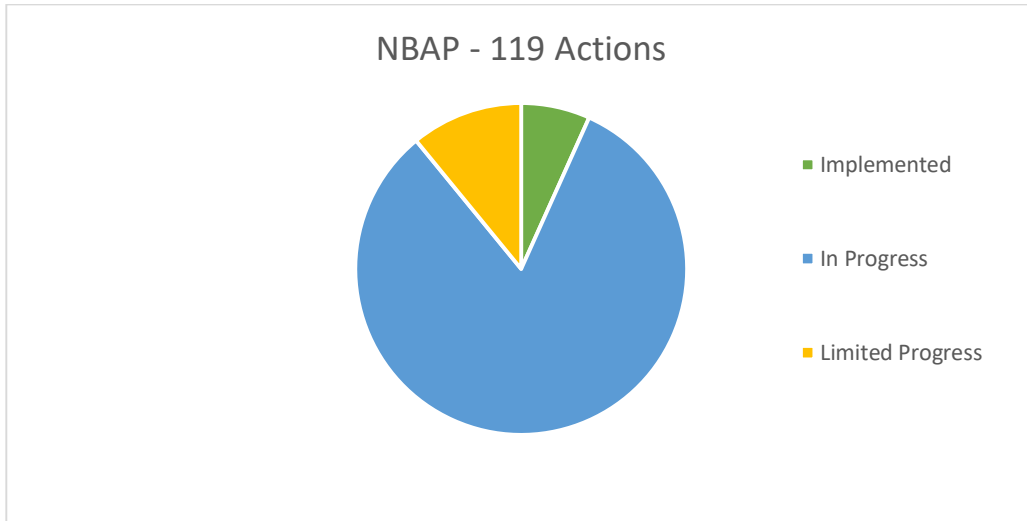


FIGURE 1. QUALITATIVE ASSESSMENT OF OVERALL PROGRESS ON IMPLEMENTATION OF THE NATIONAL BIODIVERSITY ACTION PLAN 2017 – 2021.

As highlighted in Figure 2 below, significant progress has been made, but there are still areas of the Plan where increased efforts will be required to meet its targets and objectives.

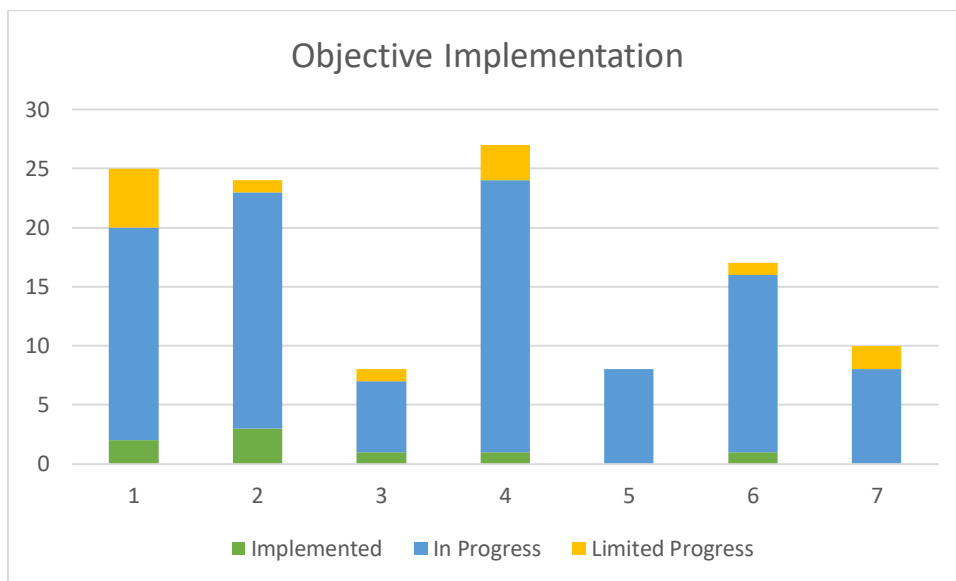


FIGURE 2. QUALITATIVE ASSESSMENT OF PROGRESS ON IMPLEMENTATION ACROSS OBJECTIVES WITHIN THE ACTIONS FOR BIODIVERSITY 2017-2021.

4.2 KEY ACHIEVEMENTS OF PLAN

A detailed commentary on the progress within each action is provided in Section 4.3 of this document. The tables below highlight some of the key achievements since 2017 under each objective of the National Biodiversity Action Plan 2017-2021.

OBJECTIVE 1: Mainstream biodiversity into decision-making across all sectors

- 1 An amendment to the Wildlife (Amendment) Bill 2016 was passed by the Seanad in November 2019. This amendment proposes that every relevant public body will be obliged, in the performance of its functions, to have regard to policies, guidelines and objectives to promote the conservation of biodiversity and the National Biodiversity Action Plan.
- 2 The Biodiversity Climate Change Sectoral Adaptation Plan was published in October 2019. Many of the actions are covered in this Biodiversity Action Plan, related in particular to bog restoration, green infrastructure and engagement activities.
- 3 As part of the UN System of Environmental Economic Accounts (SEEA), the Central Statistics Office have responded to requirements of Environmental Accounts Regulations 691/2011 and 538/2014, and will begin the process of compiling Ecosystem Accounts, following the development of a data collection instrument. Organisations including Coillte, Bord na Móna, Dublin Port Company and Bord Iascaigh Mhara are using Natural Capital Asset Accounts to demonstrate the value of public expenditure on their estates. The EPA are funding a research project which is developing catchment-level natural capital accounts via the development of SEEA Ecosystem Accounting in Ireland.
- 4 The Forestry Act 2014 was commenced under the Forestry Regulations (2017) S.I. 191 of 2017, which came into effect on the 24th May 2017. The Act:
 - sets out the specific role of Minister of Agriculture, Food and the Marine in safeguarding the environment;
 - includes overarching provisions relating to the protection of the environment;
 - integrates the requirements and procedures under the EIA Directive, the Birds and Habitats Directives, and the Water Framework Directive;
 - creates greater flexibility to the Minister in term of attaching environmental conditions to an approval or licence, and enforcing those conditions; and
 - enables the Minister to produce supplementary regulations, if needed to give effect to the principles and policies set down in the Act, under various headings, including "*(y) protection of the environment, habitats and biodiversity;*"

OBJECTIVE 2: Strengthen the knowledge base for conservation, management and sustainable use of biodiversity

- 1 A report to the EU on Article 17 assessments of the status, trends and distributions of all habitats and species listed on the EU's Habitats Directive and the Article 12 report on Birds were submitted and summary overviews published in 2019. The data which informed the conservation assessments were collated from a number of sources, primarily from scientific monitoring programmes commissioned by NPWS and DCCA. The results of many of these programmes are published as *Irish Wildlife Manuals* and are available on npws.ie. In addition, the National Biodiversity Data Centre operates five long term monitoring programmes: All-Ireland Butterfly Monitoring Scheme, The Bumblebee Monitoring Scheme,

The Marsh Frillary Monitoring Scheme, Rare Plant Monitoring Scheme and Solitary Bee monitoring scheme.

- 2 Since 2017, the Irish Vegetation Classification Project has classified heaths, bogs, rocky habitats, fens, aquatic vegetation, duneland, arable field assemblages, scrub and various other minor communities. The final phase of this project will involve reviewing and optimising the classification, identifying gaps and creating new communities and sub-communities as required, integrating available environmental data, locating missing grid references, calculating phytosociological affinities. A dichotomous key to IVC communities will be developed.
- 3 In March 2019, the EPA provided funding for a five year Natural Capital Accounting project entitled Irish Natural Capital Accounting for Sustainable Environments - INCASE – to be carried out in conjunction with TCD, UCD, UL, NUIG, IFNC and IDEEA Group. The objectives of the project are to review Natural Capital Accounting approaches, to conduct economic impact assessments and to provide development tools for decision makers, including visualisation, quality assessment and framework development.
- 4 Phase 1 of the ObSERVE Programme (2015 – 2018) involved extensive aerial and ship-based surveys which mapped 20 species of cetacean (i.e., whales, dolphins and porpoises). 2,200 sightings were recorded over the two-year field study. The surveys also highlighted the importance of the Atlantic Margin and Irish Sea for seabirds. 10,000 sightings of seabirds were recorded, representing 24 species. This programme was delivered by DCCAE in partnership with DCHG.
- 5 DCHG, in conjunction with the EPA, co-funded a research call through the EU BiodivERsA strand which will investigate the consequences of climate change on biodiversity and the potential for nature based solutions for mitigating climate change. Irish submissions will be evaluated and awarded in 2020.
- 6 Ireland Red List No.12 on Terrestrial Mammals was completed in 2019 and is available on <https://www.npws.ie>. The list includes data on all 27 terrestrial species native to or naturalised in Ireland before 1500. Of these, one was found to be regionally extinct (grey wolf *Canis lupus*), one achieved a threat status of Vulnerable (black rat *Rattus rattus*), and the remaining 25 were assessed as least concern.
- 7 The National Marine Research & Innovation Strategy 2017–2021 was published in late 2017. Three thematic research areas were identified as: Harnessing Our Ocean Wealth – A Thriving Maritime Economy, Healthy Marine Ecosystems and Engagement with the Sea.

OBJECTIVE 3: Increase awareness and appreciation of biodiversity and ecosystem services

- 1 The first National Biodiversity Conference, 'New Horizons for Nature', was held in February 2019 and brought over 500 delegates together, including 90 speakers, to talk, listen, learn and explore the way forward for biodiversity in Ireland. Delegates included policy makers, academics, businesses, community groups, conservationists, ecologists, farmers, fishers, foresters, local authorities, NGOs and politicians. The objective of the conference was to identify the challenges and explore the solutions on how to work together to achieve our common goal of reversing biodiversity loss and implementing the National Biodiversity Action Plan.
 - 2 Funding for the Local Biodiversity Grants Scheme, administered by DCHG, was increased in 2019, with €2 million available to Heritage and Biodiversity Officers over three years to undertake local biodiversity actions including engagement and training. Community
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Foundation Ireland and DCHG funded the development of 56 Community Biodiversity Plans across Ireland.

- 3 Awareness of biodiversity conservation has increased in the time period of this Action Plan. Of the 1,001 people surveyed through the Eurobarometer survey in December 2018, 70% understood the term biodiversity, a 6% increase on the previous survey.
 - 4 The ' Together for Biodiversity' Awards, supported by The Irish Wildlife Trust and Dublin Port, were launched at the National Biodiversity Conference in February 2019. The awards included categories for small and large community group projects, projects run by an Individual, school and farming projects.
 - 5 Bord Bia, under the Origin Green program, supported the 'Farming for Nature' awards for 2019, where farmers who have made a significant contribution to the protection or enhancement of nature on their farm are recognised.
 - 6 DCHG and DAFM supported the Farming For Nature organisation to develop and rollout a number of actions to provide guidance and information supporting nature on farms.
 - 7 Business in the Community Ireland published their Biodiversity Handbook for Business in February 2019, which provides case studies, a business case, and practical tips for engaging employees and supporting biodiversity in the community, key contacts and resources for biodiversity action in businesses.
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OBJECTIVE 4: Conserve and restore biodiversity and ecosystems services in the wider countryside

- 1 96% of the actions within the All-Ireland Pollinator Plan have been undertaken. Several guidelines for pollinators for various sectors/stakeholders have been published, more recently for Golf courses and Transport corridors. 1,100 sites were logged on the "Actions for Pollinators" map. There has been considerable media coverage relating to the Plan which demonstrates its ongoing success, particularly in the area of outreach and knowledge transfer.
 - 2 Draft legislation to implement the EU IAS Regulation and to update existing national IAS legislation is at advanced stage and will be progressed to completion over Q1 2020.
 - 3 A review of the National Strategy for Plant Conservation was completed and progress on actions was published in 2019 <http://botanicgardens.ie/2019/04/09/irelands-national-strategy-for-plant-conservation-progress-to-2020/>
 - 4 DHPLG were successful in their bid for EU LIFE funding for the Integrated Project 'Waters of LIFE'. This project is due to start in 2020 and aims to support the implementation of measures to protect and restore high ecological status waterbodies in Ireland.
 - 5 DAFM is funding approx. 49,000 farmers in the GLAS scheme and many others through one of the 23 "European Innovation Partnership" projects. Many of the EIPs are ground-up projects that are now in operation, developed by and with farmers and they will reap biodiversity benefits for species including hen harrier, freshwater pearl mussel, corncrake and biodiversity on a range of types of farmland, from hill farms to high-intensity farms.
 - 6 The LAWPRO programme was established in 2018, under the 2nd cycle of the River Basin Management Plan. LAWPRO currently has a staff of 60 scientists and community water officers working to support DHPLG, the EPA, local authorities and implementing bodies to achieve the RBMP targets.
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OBJECTIVE 5: Conserve and restore biodiversity and ecosystem services in the marine environment

- 1** Implementation of Ireland's Integrated Marine Plan - Harnessing Our Ocean Wealth - continued, with the sixth Annual Review of Progress published in June 2019. Directive 2014/89/EU, establishing a Framework for Marine Spatial Planning was transposed into Irish legislation by Part 5 of the Planning and Development (Amendment) Act 2018. Following the publication and consultation on the National Marine Planning Framework Baseline Report in late 2018, DHPLG have drafted a National Marine Planning Framework, which was published for consultation in October 2019.
- 2** In 2019 there were 87 Blue Flags awarded, comprising of 80 beaches and 7 marinas. There were 62 Green Coast Award sites throughout Ireland for 2019. These beaches have all met excellent water quality and are managed by the local authority in partnership with local Clean Coasts groups.
- 3** Ireland's 2nd River Basin Management Plan for Ireland was published in April 2018, covering the period 2018-2021. The Plan sets out the actions that Ireland is taking to improve water quality and achieve 'good' ecological status in water bodies (rivers, lakes, estuaries and coastal waters) during this period. Actions are progressing with a particular focus on the 190 Priority Areas for Action. Preparations have also started for the 3rd River Basin Management Plan due to be published by December 2021.

As identified in the River Basin Management Plan, Irish Water is implementing measures in relation to urban waste-water pressures at four designated Bathing Waters areas.
- 4** European Maritime and Fisheries Fund 2017-2020 (EMFF) is funding a series of new and on-going Marine Spatial Plan projects. Through these, the Marine Institute are collecting, collating and mapping accurate, up-to-date spatial and temporal information on marine ecosystems and human activities taking place within Ireland's waters. The products developed will aid informed decision making through the National Marine Planning Framework and also support the implementation of a number of cross-cutting EU policies, such as MSFD, NATURA, Climate Change and CFP.
- 5** The Sea Fisheries Protection Authority's 2017 Annual Report indicates a high level of compliance on inspections undertaken. In partnership with the Irish Naval Service, approximately 2,700 inspections were carried out at sea, 6,400 inspections in ports and 140 in fisheries (provisional data provided for 2019) during the timeframe of this review.

OBJECTIVE 6: Expand and improve management of protected areas and species

- 1** The designation process for SACs and SPAs is ongoing, with 270 SACs and 150 SPAs with Statutory Instruments as of December 2019.
 - 2** The EPA AA GeoTool application was launched in 2017. The tool is designed to help with the data gathering process of Stage 1 and Stage 2 Appropriate Assessments in Natura sites by allowing users to select a point on the map and then search for SACs and SPAs within a defined distance/ upstream/ downstream of the point.
 - 3** Detailed site-specific conservation objectives have been published by NPWS for 364 of a total 583 sites - 37 SPAs and 327 SACs.
 - 4** The EU LIFE programme funded Living Bog project, which commenced in 2016 and will conclude at the end of 2020, aims to restore the favourable conservation condition and increase the area for active raised bog by 277 hectares on the 12 raised bog special area of conservation project sites (total area of 12 SACs is 2,649ha). Restoration works on six sites with a total area of 1,420ha have been completed to date.
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Restoration measures on 260ha of State owned lands have been completed on three raised bog special areas of conservation with restoration works due to commence on a fourth protected raised bog site in early 2020.

- 5 As part of the Roseate tern LIFE programme, special conservation measures, including vegetation clearance and deployment of nest boxes were undertaken on Rockabill island. These measures have seen the population steadily increase from 180 pairs to the present level of over 1600 pairs; this makes it the largest Roseate Tern colony in Europe.
 - 6 DCHG were awarded EU LIFE funding for a five year €5.9m project, LIFE Atlantic Crex, for Corncrake conservation and funding for a €20.6m project targeting blanket bog restoration, LIFE Wild Atlantic Nature.
 - 7 Wicklow Mountains National Park was extended by the addition of almost 4,900 acres of Dublin Uplands at Glenasmole. Ballycroy National Park was also expanded with the transfer of Coillte's significant holdings at Wild Nephin to create 11,000 hectares of wilderness on State-owned lands.
 - 8 17% of the terrestrial area of Ireland lies within the Protected Area network
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OBJECTIVE 7: Strengthen international governance for biodiversity and ecosystem services

- 1 Ireland's contribution to European and International networks to support conservation research and policy continues. During the timeframe of this plan, Ireland has contributed data and information to the Global Biodiversity Information Facility (GBIF), the European Alien Species Information Network EASIN and EASIN NOTSYS, the IUCN's Global Register of Introduced and Invasive Species (GRIIS), the EEA's European Grassland Butterfly Index, the European Vegetation Archive and the Global Index of Vegetation-Plot Databases, among others.
 - 2 Cross-border collaborative projects are ongoing, including Cooperation Across Borders for Biodiversity (CABB) (2017-2022). CABB is funded by EU INTERREG VA to improve the condition of upland SACs and SPAs. Collaborative Action for the Natura Network (CANN), another INTERREG project with Northern Ireland and Scotland, is working to save peatlands and other wetlands supporting threatened species such as curlew and hen harrier.
 - 3 A concerted effort is being made to coordinate Species and Habitat surveillance across the island. All Red Lists produced by DCHG are compiled on an all-island basis, as are two bat monitoring programmes – Daubenton's bat waterways survey and the Car Transect Survey. The Atlas of Mammals in Ireland was an all-island initiative and production; equally the ongoing European Mammal Atlas project receives coordinated input from NBDC and CEDaR. The All-island Marsh Fritillary Monitoring Scheme is run by the NBDC, in collaboration with DCHG and the Northern Ireland Environment Agency and Butterfly Conservation Northern Ireland.
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4.3 SUMMARY INTERIM UPDATE BY ACTION

OBJECTIVE 1 MAINSTREAM BIODIVERSITY INTO DECISION-MAKING ACROSS ALL SECTORS

No.	Action	Lead/key partners	Status	Interim Report Summary Update
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	DCHG	In Progress	As part of the amendment to the Wildlife (Amendment) Bill, it is proposed that every relevant public body will be obliged, in the performance of its functions, to have regard to policies, guidelines and objectives to promote the conservation of biodiversity and the national biodiversity action plan. This Bill was passed by the Seanad in November 2019 with amendments. DCHG will seek to re-commence the parliamentary work on the Bill with the new Government is formed after the February 2020 election.
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	Public Authorities Private Sector	In Progress	<p>DCHG initiated a project at the end of 2019 to produce guidance for planning authorities on Article 6(3) and Article 6(4) of the Habitats Directive.</p> <p>DAFM is completing a major revision of its appropriate assessment procedures covering applications for forestry licences and approval under various support schemes. Key drivers for this work were recent rulings from both the European Court of Justice and the independent Forestry Appeals Committee, established under S.I. No. 68/2018.</p> <p>Public consultation in relation to the SEA and NIS for the Draft Plan for Forests & Freshwater Pearl Mussel in Ireland was completed in October 2018. While feedback has been assessed and detailed responses prepared, further progress is pending the revision of the appropriate assessment procedure for forestry.</p>

				<p>Work on compiling the next Forestry Programme 2022-2027 has commenced, and the associated SEA is due to go out to tender.</p> <p>The EPA have published a guidance note on integrating climatic factors into Strategic Environmental Assessment.</p> <p>In 2018 CIEEM published its updated Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (updated to version 1.1 in 2019).</p>
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	Public Authorities Private Sector	In Progress	<p>The OPW set up a Biodiversity Working Group in order to prepare a strategy for supporting biodiversity.</p> <p>In September 2018, DAFM announced the launch of their new Woodland Environmental Fund (WEF), which provides an access point for individual businesses to help expand Ireland's native woodland resource. The WEF provides additional incentives to the existing Native Woodland Establishment Scheme to encourage landowners to plant new native woodlands that they may not have otherwise planted, had that additional support not been provided. This relationship benefits the State by contributing to national targets regarding native woodland afforestation and enhances the reputation of the participating business, as that business is associated with the creation of a tangible environmental asset that will become a permanent feature of the landscape. As of February 2020, WEF partners include Aldi, An Post, Accenture and Microsoft, and discussions with a number of other interested parties are ongoing.</p> <p>With the establishment of the not-for-profit entity <i>Coillte Nature</i> in July 2019, Coillte is seeking to advance its sustainability agenda by undertaking large discrete projects with a separate non-commercial focus. These projects are intended to increase the national forest estate but with a strong emphasis on carbon sequestration, species diversification and biodiversity.</p>
1.1.4	Strengthen ecological expertise in local authorities and relevant Government Departments and agencies	Public Authorities Heritage Council	In Progress	<p>Capacity in ecological expertise has been increased in a number of Government Departments and public bodies:</p> <ul style="list-style-type: none"> - DCHG appointed a Head of Ecological Assessment and five Divisional Ecologists, in addition to six additional scientific staff in the National Parks and Wildlife Service, with more to come in 2020 - The OPW hired an ecologist to work in their drainage section

				<ul style="list-style-type: none"> - DAFM hired three full time ecologists in 2017. The Forest Service of DAFM are in the process of recruiting two additional ecologists, both expected to be in place within the Forestry Inspectorate in Q1 of 2020 - An Bord Pleanála appointed an ecologist in 2019. <p>A new all-island climate & biodiversity research network was set up in Dec 2019.</p> <p>The Agricultural Sustainability Support and Advisory Programme (ASSAP) is an innovative new programme funded by DAFM/DHPLG and Industry and supported by the farm organisations. Its objective is to achieve improvements in water quality by providing free and confidential agricultural advice from 30 dedicated agricultural sustainability advisors to farmers operating in selected Priority Areas for Action. The programme commenced in 2018 and will run to 2021. The sustainability and water quality improvements will be achieved through three main areas of focus on farm:</p> <ul style="list-style-type: none"> - Improved nutrient management with more targeted use of slurry and fertiliser - Better farmyard management & practices - New approaches to land management to reduce nutrient losses in critical source areas. <p>The overall aim is to protect and improve water quality contributing to meeting obligations under the Nitrates Directive and Water Framework Directive</p>
1.1.5	Local Authorities will review and update their Biodiversity and Heritage Action Plans	Local authorities, DHPLG, Heritage Council, DBBP	In Progress	While some dedicated Local Biodiversity Plans are being produced, biodiversity actions by the local authorities have also been incorporated into the Heritage Plan process. 14 standalone Biodiversity Action Plans (not combined with County Heritage Plans) were produced by local authorities, usually with an operational period of four or five years. 15 plans will require updating post 2019. Local authorities that have standalone Biodiversity Action plans include Meath County Council, Dublin City Council and Clare County Council.
1.1.6	Local Authorities will review and update their Development Plans and policies to include policies and objectives for the protection and	Local authorities, DHPLG	Limited Progress	Information on updates to Development Plans not available at time of review.

	restoration of biodiversity			
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	Local authorities	In Progress	Provision for Green Infrastructure has been built into Climate Adaptation Plans at a local level. A commitment has been made by DHPLG as part of the 'Seeds for Nature' charter announced at the National Biodiversity Conference to provide Planning Policy Guidance to support the integrated planning for green infrastructure within statutory land use plans, in line with the objectives of the National Planning Framework. There are 11 Local Authorities with Green Infrastructure Strategies/Guidelines in place, with a further eight Local Authorities progressing their strategies.
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	DCHG, EPA, Local Authorities, Heritage Council	In Progress	<p>In order to develop best practice in Appropriate Assessment for public authorities, the National Appropriate Assessment Forum was established in 2019 and has met twice during the year. DCHG work on producing guidance in relation to burning and wildlife is almost complete, in addition to guidance for public authorities on working with protected species. A tender for the production of guidance in relation to Articles 6(3) and 6(4) of the Habitats Directive, outlining the procedure to be followed when planning new developments which might affect a Natura 2000 site, was published in December 2019.</p> <p>The Heritage Council makes regular submissions to calls from a range of Government Departments, in addition to producing advice on a range of issues relating to built, natural & cultural heritage.</p>
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	Relevant Government Departments	Limited Progress	Not progressed within the timeframe of this review.

	Framework and this NBAP			
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	CSO, IFNC,DCHG	In Progress	As part of the UN System of Environmental Economic Accounts (SEEA) , the Central Statistics Office (CSO) have responded to requirements of Environmental Accounts Regulations 691/2011 and 538/2014, and intend to begin the process of compiling Ecosystem Accounts, following the development of a data collection instrument. Organisations including Coillte, Bord na Móna, Dublin Port Company and Bord Iascaigh Mhara are using Natural Capital Asset Accounts to demonstrate the value of public expenditure on their estates.
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)	CSO, IFNC, Irish Water, DHPLG, EPA, NESC	In Progress	See 1.1.10. The EPA are also funding a research project which is developing catchment-level natural capital accounts via the development of SEEA Ecosystem Accounting in Ireland.
1.1.12	Establish a national Business and Biodiversity Platform under the CBD's Global Business Partnership	IFNC, BITCI, Sustainable Nation	In Progress	DCHG, in conjunction with DBEI, made a commitment to establish a national Business and Biodiversity Platform under the CBD's Global Business Partnership as a 'Seed for Nature' announced at the National Biodiversity Conference in February 2019. A Request for Tender for a scoping study on the platform has been drafted and is awaiting agreement by both parties.
1.1.13	Ensure Origin Green produces tangible benefits for biodiversity	Bord Bia, Teagasc, DAFM	In Progress	Bord Bia collaborated with 187 farms in a pilot project on the use of aerial imagery to assist in sustainability assessments for farm habitat methodology. Methodology used in this project was submitted to the Irish Journal of Agriculture and Food Research.

	with increased emphasis on conservation and restoration of biodiversity			<p>The Heritage Council funded c90 Projects under the GLAS Traditional Farm Buildings Scheme in 2019, all of which were screened to ensure best outcomes for relevant biodiversity.</p> <p>A Teagasc Biodiversity Practice Index is being developed and has been applied to 149 Waterford dairy farms and 800 farms in National Farm Survey.</p> <p>An EU-funded SmartAgriHubs project was initiated in September 2018 to assess farmland habitat type and area on a subset of ~300 Teagasc NFS farms.</p>
1.1.14	Implement actions from Ireland's Biodiversity Climate Change Sectoral Adaptation Plan	Relevant Government Departments	Limited Progress	The Biodiversity Climate Change Sectoral Adaptation Plan was published in October 2019. Although an inaugural implementation meeting has not taken place, many of the actions are covered in this Biodiversity Action Plan, related in particular to bog restoration, green infrastructure and engagement activities.
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	Relevant Government Departments	In Progress	<p>DCHG and IRC are currently funding a Financial Needs Assessment to determine the costs of fulfilling national biodiversity policy objectives. The research will assess the effectiveness of the use of current funding streams and provide an extensive assessment of the full range of potential financing mechanisms (e.g. payments for ecosystem services, biodiversity offsets, restoration of carbon sinks, fiscal transfers, etc.), together with improved targeting of existing measures for biodiversity. A Policy and Institutional Review will analyse positive and negative policies and subsidies to fully outline the challenge of not only mobilising finance, but of ensuring policy and environmental fiscal reform.</p> <p>Payments for Ecosystem Services are primarily supported through the CAP via various voluntary Agri-Environmental GLAS schemes, where landowners receive a payment for specific and targeted Agri-environmental measures.</p> <p>Further payment for Ecosystem services are delivered through the EU LIFE funding stream. There are a number of DCHG EU LIFE projects ongoing and due to start in 2020, such as KerryLIFE, Raised Bog LIFE and LIFE Atlantic Crex.</p> <p>In 2018, a grant scheme of €400,000 was made available by DCHG to County Heritage/Biodiversity officers to implement biodiversity actions at a local level, including workshops for school children, actions on invasive species, pollination, surveys of swifts (<i>Apus apus</i>) and the supply of nesting</p>

				<p>boxes for this species. This funding was increased to €500,000 in 2019, with a further €700,000 promised for 2020.</p> <p>In 2019, the European Court of Auditors audited the impact of agricultural policies on. A report on the findings will be issued in May 2020.</p>
1.1.16	<p>Establish and implement mechanisms for the payments of ecosystem services including carbon stocks, to generate increased revenue for biodiversity conservation and restoration</p>	<p>Relevant Government Departments</p>	<p>In Progress</p>	<p>The EU LIFE funding stream has been an important source of funding in the payment of Ecosystem services during the timeframe of this plan. DHPLG were awarded funding for an EU LIFE Integrated Project, 'Waters of LIFE', starting in January 2020 which will allow for the establishment of a Results Based Agri-Environmental Payment Scheme (RBAPS) for the protection of High Status Waterbodies. The National Parks and Wildlife Service of DCHG have successfully bid for funding in a number of LIFE projects which involve results based payment schemes, including the newly awarded LIFE Atlantic Crex, targeting the conservation of Corncrake in Ireland, and LIFE Wild Atlantic Nature, for the restoration of blanket bog.</p> <p>The Woodland Environmental Fund (WEF) provides an access point for individual businesses to help expand Ireland's native woodland resource, by providing additional incentives to encourage landowners to plant new native woodlands.</p>
1.1.17	<p>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</p>	<p>DCHG, BWG</p>	<p>In Progress</p>	<p>A financial strategy arising from the research outlined in 1.1.15 will be developed to address the finance gap combining suitable and nationally-adapted mechanisms and to achieve cross-departmental buy-in.</p>
1.1.18	<p>Monitor the implementation of this Plan</p>	<p>BWG, Biodiversity Forum</p>	<p>In Progress</p>	<p>Submissions of progress were requested from the Biodiversity Working Group and other relevant stakeholders in 2017 and 2019. This information has been supplemented by the information collated for the 6th National Report to the Convention on Biological Diversity.</p>

1.2.1	Review existing legislation and identify gaps	DCHG	Implemented	Regulations to give effect to the revised EIA Directive for both the Wildlife Act and the 2011 Birds and Habitats Regulations have been drafted and DCHG has been working with Parliamentary Council to finalise.
1.2.2	Consolidate the Wildlife Acts in a new Bill	DCHG	Limited Progress	Not progressed within the timeframe of this review.
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	DCHG	In Progress	The review of the Flora (Protection) Order has been completed and a revised FPO has been drafted. Progress on the review of Schedule 5 has been made, but additional work is required to consider the results of recently published Red Lists.
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	DAFM	Implemented	<p>The Forestry Act 2014 was commenced under the Forestry Regulations (2017) S.I. 191 of 2017, which came into effect on the 24th May 2017. The Act:</p> <ul style="list-style-type: none"> - sets out the specific role of Minister of Agriculture, Food and the Marine in safeguarding the environment - includes overarching provisions relating to the protection of the environment - integrates the requirements and procedures under the EIA Directive, the Birds and Habitats Directives, and the Water Framework Directive - creates greater flexibility to the Minister in term of attaching environmental conditions to an approval or licence, and enforcing those conditions - enables the Minister to produce supplementary regulations, if needed to give effect to the principles and policies set down in the Act, under various headings, including " (y) protection of the environment, habitats and biodiversity "
1.2.5	Publish legislation to address required provisions under the EU Regulation on invasive	DCHG, DCCAE, IFI	In Progress	Draft legislation to implement the EU IAS Regulation and to update existing national IAS legislation is at advanced stage and will be progressed to completion over Q1 2020.

	alien species (No. 1143/2014) and on responsibilities and powers regarding invasive alien species, giving IFI responsibility for aquatic invasive species			
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	DCHG	In Progress	Work is ongoing, with an aim to have the Protocol ratified before end Q2 / early Q3 2020, in advance of the Convention on Biological Diversity COP15. Following on from new statutory instrument, Ireland is now signed up to common EU DECLARE platform for monitoring users.
1.2.7	Publish legislation to provide a legal basis for National Parks	DCHG	Limited Progress	Not progressed within the timeframe of this review.

OBJECTIVE 2 STRENGTHEN THE KNOWLEDGE BASE FOR CONSERVATION, MANAGEMENT AND SUSTAINABLE USE OF BIOVDERSITY

No.	Action	Lead/key partners	Status	Interim Report Summary Update
2.1.1	Review priority needs for biodiversity research in 2019	EPA, DCHG, Academia and Research Institutions, eNGOs, Government Agencies	In Progress	<p>Biodiversity research needs were included as part of the 2019 Annual Consultation Process for the 2019 EPA Research Calls. Topics included in the 2019 EPA Research calls for awards in 2019 & 2020:</p> <ul style="list-style-type: none"> - Options to maintain and enhance carbon stocks within the rural landscape (with scope encompassing: "Analysis of co-benefits and trade-offs, especially with respect to rural development, biodiversity (improved nature value within productive agricultural areas), water quality and water flow regimes") (co-funded with DAFM) - The vulnerability of peatland ecosystems to a changing climate and increases in the frequency and severity of droughts (co-funded with NPWS) - The impact of climate change on the habitats and wildlife of the Rogerstown Estuary and Ballyboughal River in North County Dublin (co-funded with Fingal co/Co) - no proposal received - Water futures: effectiveness of mitigation measures in a changing environment – investigating the effects of future population growth, land use and climate change scenarios on water quality in Ireland (co-funded with DAFM) (extracts of expected outputs: "effectiveness of mitigation measures within these scenarios. The research could focus on multiple benefits for water, climate, flooding and biodiversity") - Bat surveillance: ecosystem services of Irish bats (co-funded with NPWS) - Holistic sustainability performance assessment of Irish ports/harbours (co-funded with MI) (with scope encompassing: "Proposals could also consider the multiple benefits and trade-offs between available mitigation measures in relation to: (i) biodiversity enhancement; (ii) flood risk mitigation; (iii) carbon capture (mitigation); (iv) adaptation to climate change; and (v) water quality").
2.1.2	Develop a classification scheme for terrestrial vegetation and marine	DCHG, NBDC	In Progress	<p>Since 2017, the Irish Vegetation Classification Project has classified heaths, bogs rocky habitats, fens, aquatic vegetation, dune land, arable field assemblages, scrub and various other minor communities. The final phase of this project will involve reviewing and optimising the classification, identifying gaps and creating new communities and sub-communities as required, integrating</p>

	and freshwater communities			<p>available environmental data, locating missing grid references, calculating phytosociological affinities. A dichotomous key to IVC communities will be developed.</p> <p>Using data from the Natura sampling programme a classification of marine benthic communities is currently being finalised by DCHG and NUIG.</p>
2.1.3	Complete national terrestrial habitat, land cover, land use, and ecosystem service maps	DCHG, OSI, EPA, Heritage Council, Teagasc, DAFM	In Progress	<p>Standards for classification and data models will be finalised pending review of test block data by National Land Cover Habitat Mapping Technical Working Group in Q1 2020. OSi received sanction to take on additional remote sensing resources for the project. In 2019, the EPA worked in partnership with the OSI as the lead agency on the project and undertook technical knowledge transfer to OSi on a refined set of methods, classification and modelling as developed by the National Landcover and Habitat Mapping (NLCHM) Working Group. Further refinements were also developed to incorporate higher resolution OSI imagery and point cloud data sources. The OSi team developed a workflow for national implementation and final data integration process utilising existing OSi infrastructure and data flow processes.</p> <p>The first release for a pilot area (Block 20) was completed in 2019, covering most of County Wicklow. Following review in early 2020 by the NLCHM Technical Working Group of the classification, validation and test products, it is anticipated that production for the other 36 blocks of the country will commence in early 2020 and be completed by Q1 2021. The sequence of production will be aligned with OSi's Series 2 Ortho production process.</p>
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	DCHG, Marine Institute, EPA, Heritage Council, NBDC, DPER	In Progress	<p>As of August 2019, 147 different datasets are available on Biodiversity Maps https://maps.biodiversityireland.ie/. 61 datasets are published to GBIF under CC-BY licence, comprising 1.5 million records</p> <p>404 datasets are available on www.marine.ie</p> <p>The NBG is working on digitising distribution data of Irish flora from herbarium records. Data will be published in line with INSPIRE.</p> <p>DCHG are currently working with DHPLG INSPIRE Steering Committee on the publication of INSPIRE data on the Ordnance Survey of Ireland INSPIRE GeoPortal website. NPWS have published 45 biodiversity Open Data sets and data set series to date on data.gov.ie. Partner organisations have</p>

				<p>aligned their biodiversity data publication processes with the Irish Open Data Strategy and a wealth of biodiversity resources are now freely available as Open Data via the Irish Government Open Data Portal website www.data.gov.ie</p> <p>Common data standards in line with the INSPIRE Directive are being coordinated and applied through the Department of Housing, Planning and Local Government's INSPIRE Steering Committee. The Irish INSPIRE Geoportal website in OSI has recently upgraded and biodiversity data sets are increasingly being published through this coordination channel – contributing to a harmonised, European level view of a number biodiversity related data themes.</p>
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	EPA, DCHG, DAFM, IFNC, NESC, CSO, Academia and Research Organisations, BnM	In Progress	In March 2019, the EPA provided funding for a five year Natural Capital Accounting project entitled Irish Natural Capital Accounting for Sustainable Environments -INCASE – to be carried out in conjunction with TCD, UCD, UL, NUIG, IFNC, IDEEA Group. The objectives of the project are to review Natural Capital Accounting approaches, to conduct economic impact assessments and to provide development tools for decision makers, including visualisation, quality assessment, and framework development. The Project Steering Committee meeting was held in November 2019 and a project review is due to be submitted in February 2020.
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	DCHG, EPA, IFI, NBDC, Academia and Research Institutions, eNGOs	Implemented	<p>Both Article 17 assessments of the status, trends and distributions of all habitats and species listed on the EU Habitats Directive and Article 12 report on Birds were submitted and summary overviews published in 2019. The data which informed the conservation assessments were collated from a number of sources, primarily from scientific monitoring programmes commissioned by NPWS and DCCA.</p> <p>Since 2017 NPWS have commissioned surveys for marine habitats, lagoon, saltmarsh, shingle and associated dunes, raised bog, woodland, plant species, vertigo species, pearl mussel, bats, hare, seals, cetaceans and bird species.</p> <p>The National Biodiversity Data Centre operates five long term monitoring programmes: All-Ireland Butterfly Monitoring Scheme, The Bumblebee Monitoring Scheme, The Marsh Fritillary Monitoring Scheme, Rare Plant Monitoring Scheme and Solitary Bee monitoring scheme.</p>

2.1.7	Support and encourage the volunteer network and local communities to carry out biological recording and other citizen science projects	Relevant Government Departments and agencies, NBDC, eNGOs, Community groups	Implemented	<p>The Citizen Science Portal of the National Biodiversity Data Centre has received 496,055 records on 9,033 species to date, submitted online at https://records.biodiversityireland.ie/</p> <p>Records managed by the National Biodiversity Data Centre contributed to 19 specific citizen science projects in 2019.</p> <p>The NPWS launched a ‘Small Recording Projects’ grants scheme, aimed at volunteer, unpaid recorders, or groups, societies and associations of recorders who have limited/no access to financial supports for their work.</p> <p>A number of NGOs continue to contribute towards regular citizen science-driven monitoring. Of particular note are the efforts of Bat Conservation Ireland and the garden survey, countryside bird survey and wetland bird counts managed by Birdwatch Ireland (BWI), the Irish Whale and Dolphin Group work on cetacean movements and strandings and the Vincent Wildlife Trust.</p> <p>The Heritage Council, through the Heritage Officer Network (HON), provides direct grant support for Heritage /Biodiversity Week and Community Based events, which are directed at this action.</p>
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	DCHG, DCCAE, EPA, Academia and Research Institutions	In Progress	<p>DCHG, in conjunction with the EPA, co-funded a research call through the EU BiodivERsA strand which will investigate the consequences of climate change on biodiversity and the potential for nature based solutions for mitigating climate change. The BioDIVClim joint call was launched in 2019 and is currently undergoing evaluation, with 24 participants from the Irish Research community. Outcomes are expected in mid-2020.</p> <p>In 2019, there were 2 successful proposals with Irish partners in H2020 SC5:</p> <p>BioDIVClim (Promoting and implementing joint programming to reinforce transnational research at the crossroad between biodiversity and climate change) ERAnet, with the EPA as a partner</p> <p>MacoBios (Marine Coastal Ecosystems Biodiversity and Services in a Changing World) with Maynooth University as a partner.</p> <p>In addition, there were two large Innovation Actions on implementing Nature-based Solutions in cities.</p>

				<p>The next call BiodivERsA 2020 Joint Call is under preparation and will be on the topic of Degraded Ecosystems Restoration.</p> <p>The EPA has actively engaged in the on-going discussions regarding the development of the proposed Horizon Europe Biodiversity Partnership.</p> <p>EU Horizon 2020 research funding was awarded to NUIG to develop ecologically and economically sustainable protocols for the restoration of threatened and damaged marine ecosystems.</p> <p>The SeaRover programme, which mapped offshore reef habitat, was funded under the EMFF marine biodiversity scheme.</p>
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	DCHG, Academia and Research Institutions, EPA, DAFM, DCCAE, DHPLG	In Progress	<p>See BiodivERsA research in 2.1.8.</p> <p>DAFM continues to monitor ongoing research projects funded through its Stimulus and COFORD research programmes some of which addresses this action.</p> <p>DAFM, with co-funding from the EPA, are funding several research projects relating to sustainable agricultural practices, including nutrient management. The following research is of particular relevance to mitigating stressors on biodiversity: protecting terrestrial ecosystems through sustainable pesticide use; hydrological and sediment impacts of forestry operations in Ireland and abating ammonia in agriculture</p> <p>The ReConnect project examined the impact of river barrier removal, e.g. weirs, on aquatic biology, sediment movement and hydrology (UCD. EPA funded).</p> <p>The SAMFHIREs project researched Saltmarsh function and human impacts on Ecological status (TCD. EPA funded).</p> <p>The PROTECTS project investigated the protection of terrestrial ecosystems through sustainable pesticide use (NUIG/TCD. DAFM funded).</p>
2.1.10	Continue forest research programme on forest biodiversity, the delivery of wider ecosystem	DAFM, COFORD, Forest Service, Academia and Re	In Progress	<p>The DAFM Council for Forest Research and Development (COFORD) Programme provides funding for "public good" research to Irish research performing organisations on a competitive basis. DAFM issues calls for research periodically. The seven thematic areas of Forest Research in Ireland (FORI) help guide the Programme, with Biodiversity covered under Theme 3.6 'Ecosystem Services'. The</p>

	services (e.g. protection of water), carbon accounting and the interaction of climate change and forest systems	search Institutions		<p>National Botanic Garden has been active in research on characterisation of forest genetic resources. NBG collaborated on the FORGEN project and undertook genetic characterisation of native forest species - alder, birch and Scots pine – with a further project due to commence in 2019.</p> <p>DAFM, with co-funding from the EPA, are funding research on the next steps in managing the impact of ash dieback and the response of tree species to climate change</p> <p>In December 2019, the OPW secured funding from DAFM for a proposed project (GENENET) to characterise a network of gene conservation sites for native tree species. The GENENET project aims to establish a gene conservation network for native tree species in Ireland. The project will undertake a mapping exercise to identify potential sites for the network. The sites will then be surveyed and characterised to determine levels of genetic diversity and putative origins through comparison to European data. The data generated will be built into a geographical information system that can be used for future management of this valuable genetic resource.</p>
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	Academia and Research Institutions, DCHG, Botanic Gardens, NBDC, CIEEM, BSBI	In Progress	<p>The NBDC runs an extensive programme of events each year geared at staff, biological recorders and the general public. A total of 47 training workshops were held during 2018-2019, covering a variety of topics, including the identification of wetland birds, cetaceans and vascular plants, recording of biodiversity, monitoring workshops, etc.</p> <p>The NBGs filled some key positions during the timeframe of this review, including Taxonomist, Botanist and Herbarium Assistant.</p> <p>Field and indoor-based training courses on the identification of vascular plants, bryophytes, stoneworts and other groups are provided to staff, biological recorders and the general public on a regular or occasional basis by various State, Semi-State and eNGOs.</p>
2.1.12	Hedgerow surveys will be continued by Local Authorities	Local Authorities, DCHG, DHPLG, Woodlands of Ireland, NBDC, HLAI	In Progress	Hedgerow surveys ongoing, detail unavailable at time of report.

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	DCHG, DAERA, NBDC, CEDaR, IFI	In Progress	Ireland Red List No.12 on Terrestrial Mammals was completed in 2019 and is available on https://www.npws.ie . The list includes data on all 27 terrestrial species native to or naturalised in Ireland before 1500. Of these, one was found to be regionally extinct (grey wolf <i>Canis lupus</i>), one achieved a threat status of Vulnerable (black rat <i>Rattus rattus</i>), and the remaining 25 were assessed as least concern.
2.1.14	Build upon Red List assessments to identify conservation priority species and identify knowledge gaps for those prioritised species	DCHG, NBDC, IFI	In Progress	The Natterjack Toad was identified in Ireland's Red List No. 5 as a priority for action and significant conservation work is underway to improve the range, habitats and population trend for this 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)	NBDC, DCHG, Marine Institute, DAFM, DCCAIE	In Progress	<p>Work is underway at the Marine Institute to map range and habitat for endangered skate and flat shark species.</p> <p>A UCD research project continues to look at biases in taxonomic databases held by the Data Centre which will inform the value of using existing data as a basis for identification of Key Biodiversity Areas. First outputs due by end 2019.</p> <p>As EBSA has been described for the Hatton Rockall bank. This is being referred to CBD COP 15 for a decision on its inclusion in the EBSA repository</p>
2.1.16	Prioritise needs for research arising from the Biodiversity Climate Change Sectoral Adaptation Plan	EPA, DCCAIE, Academia and Research Institutions, DCHG, Marine Institute	In Progress	<p>The Biodiversity Climate Change Sectoral Adaptation Plan was launched in October 2019. Collaborative funding for researching the impacts of Climate change on biodiversity has been ring-fenced for the EU BiodivERSA strand (see 2.1.8).</p> <p>DCHG are funding research to develop our understanding of the potential impact of climate change on bat species and the Natterjack toad.</p>

				<p>The EPA are funding 2 research programmes relating to phenology. This research is being undertaken by UCC.</p> <p>The BioDIVClim Joint call was launched in 2019 and is currently undergoing evaluation – see update 2.1.8. The research needs arising from the BCCSAP will be fully reviewed in the preparation of the next EPA Research Strategy (currently being updated).</p>
2.1.17	Encourage long-term monitoring schemes to enable tracking of biodiversity change over time	DCHG, NBDC, EPA, Academia and Research Institutions, relevant eNGOs	In Progress	<p>Most species and habitats listed on the Habitats and Birds Directive are subject of long term monitoring. In addition, the National Biodiversity Data Centre operates five long term monitoring programmes: All-Ireland Butterfly Monitoring Scheme, The Bumblebee Monitoring Scheme, The Marsh Fritillary Monitoring Scheme, Rare Plant Monitoring Scheme and Solitary Bee monitoring scheme.</p> <p>The EPA is supporting citizen science through its funding of the National Biodiversity Data Centre (NBDC) project Dragonfly Ireland 2019 – 2024. This survey has the objective of producing an updated Dragonfly and Damselfly Atlas for Ireland. Further details are available here: http://www.biodiversityireland.ie/recordbiodiversity/dragonfly-ireland-2019-2024/</p> <p>The EPA has worked in partnership with the National Biodiversity Data Centre (NBDC) to scope and fund the Explore Your Shore survey. The objective of this citizen science project is to empower and support volunteer citizen scientists to survey and record intertidal and coastal marine species. Several communication workshops were held in 2019. Further details are available here: https://exploreyourshore.ie/</p> <p>The Marine institute identified their monitoring research priorities and a call for proposals was published in 2019.</p>
2.1.18	Conduct research into the threat posed to Ireland’s marine biodiversity by marine litter including microplastics, ocean	Academia and Research Institutions, DHPLG, EPA, Marine Institute, DCHG	In Progress	<p>GMIT have a number of research projects relating to marine threats, one of which is the IMP.act project on microplastics, which aims to develop a long-term working framework dedicated to the management of marine anthropogenic litter and microplastic pollution.</p> <p>The Marine Institute is collecting litter data through the Irish Groundfish Survey and has published four reports and 13 peer reviewed publications during the action plan timeframe, in addition to participating in the Clean Atlantic Interreg Project, where the objective is to protect biodiversity and</p>

	acidification, light and noise			ecosystem services in the Atlantic Area by improving capabilities to monitor, prevent and remove (macro) marine litter. Also of note is the EPA funded project on the impacts of micro-plastics in freshwaters.
2.1.19	Update the Marine Research Strategy	Marine Institute, DAFM	Implemented	The National Marine Research & Innovation Strategy 2017–2021 was published in 2017. Three thematic research areas were identified as: Harnessing Our Ocean Wealth – A Thriving Maritime Economy, Healthy Marine Ecosystems and Engagement with the Sea.
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	DCHG, DHPLG	In Progress	DCHG and IRC are currently funding a Financial Needs Assessment to determine the costs of fulfilling national biodiversity policy objectives. The research will assess the effectiveness of the use of current funding streams and provide an extensive assessment of the full range of potential financing mechanisms (e.g. payments for ecosystem services, biodiversity offsets, restoration of carbon sinks, fiscal transfers, etc.), together with improved targeting of existing measures for biodiversity. A Policy and Institutional Review will analyse positive and negative policies and subsidies to fully outline the challenge of not only mobilising finance, but of ensuring policy and environmental fiscal reform.
2.1.21	Identify areas/instruments and tax enablers that could be developed to incentivise biodiversity/conservation project funding by the private sector	Academia, research institutes, relevant public bodies	In Progress	See Action 2.1.20
2.1.22	Research and gather information on biodiversity implications of synthetic biology and novel genetic techniques	Academia, research institutes, relevant public bodies	Limited Progress	Not progressed in the timeframe of this review.

	to inform policy and regulatory issues			
2.1.23	Encourage the use of emerging technology especially in barcoding and genomic research to acquire relevant knowledge on Irish species	Academia, research institutes, relevant public bodies	In Progress	<p>The use of emerging technology is being widely explored.</p> <p>To inform future monitoring and management for Irish species, DCHG recently joined the EU COST Action group Genomic Biodiversity Knowledge for Resilient Ecosystems.</p> <p>The Marine Institute, under an MoU with DCHG, are using eDNA to track the distribution in Ireland of Crayfish Plague, White-clawed Crayfish <i>Austropotamobius pallipes</i> and non-indigenous crayfish species.</p> <p>The NBG utilises genetic and genomic technologies, including DNA barcoding to characterise genetic diversity in plant species. DCHG have also collaborated on work in this area.</p>
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	NBDC, DCHG	In Progress	<p>The National Biodiversity Indicators are collated by the National Biodiversity Data Centre. The indicator framework and the latest report is now available to download at https://indicators.biodiversityireland.ie/. The 56 indicators underpinning this latest assessment represent a range of direct metrics such as the growth in protected areas or changes in insect populations, but also indirect indicators like changing attitudes towards wildlife protection or the number of local authority biodiversity action plans currently in place. The indicators are currently being refined and tagged to enable reporting to various policy streams including Climate and SDGs.</p>

OBJECTIVE 3 INCREASE AWARENESS AND APPRECIATION OF BIODIVERSITY AND ECOSYSTEM SERVICES

No.	Action	Lead/key partners	Status	Interim Report Summary Update
3.1.1	Engage with local communities and stakeholders to help achieve the objectives of this plan	Relevant government departments and agencies, eNGOs, community groups including CWF, and SECAD	In Progress	<p>In February 2019, over 500 delegates, including 90 speakers came together to talk, listen, learn and explore the way forward for biodiversity in Ireland at the first National Biodiversity Conference, 'New Horizons for Nature'. Delegates included policy makers, academics, businesses, community groups, conservationists, ecologists, farmers, fishers, foresters, local authorities, NGOs and politicians. The objective of the conference was to identify the challenges and explore the solutions on how to work together to achieve our common goal of reversing biodiversity loss and implementing the National Biodiversity Action Plan.</p> <p>National Biodiversity Week 2019, supported by DCHG among others, held events all over the country, communicating the importance of biodiversity, with a focus for 2019 on the connection between biodiversity and our food systems.</p> <p>In 2018, Lean Business Ireland and the Community Foundation supported Community Biodiversity Grants, the Dublin Port Company funded the Together for Biodiversity Awards and a National Farming for Nature Awards scheme was supported by Bord Bia, DCHG, DAFM, Burrenbeo Trust and the National Rural Network.</p> <p>Funding for the Local Biodiversity Grants Scheme administered by DCHG was increased in 2019, with €2 million available to Heritage and Biodiversity Officers over three years to undertake local biodiversity actions including engagement and training. Community Foundation Ireland with support from DCHG funded the development of 56 Community Biodiversity Plans across Ireland.</p> <p>The Peatlands Community Engagement Scheme made €200,000 available in 2019 to encourage local communities, local groups, schools and other interested parties to engage with DCHG in relation to the conservation and revitalisation of raised bog Special Areas of Conservation (SACs), Natural Heritage Areas (NHAs) and other raised bog areas and promote public engagement and awareness of our natural heritage.</p>

				<p>Teagasc Hedgerow Week 2019 engaged with hedgerow stakeholders including contractors, beekeepers, tidy towns and schools through AgriAware. The Teagasc Hedgerow Forum was also initiated.</p> <p>CAP4Nature was produced by a group of independent scientists who proposed six Key Principles for the CAP Strategic Plan, outlining the evidence base underpinning them, and illustrating with tangible examples, see www.cap4nature.com. This initiative was led by the Biodiversity Forum and funded by DCHG.</p>
3.1.2	Enhance training, communication, cooperation and concerted action between relevant sectors in support of biodiversity conservation	Relevant government departments and agencies, eNGOs and community groups	In Progress	<p>Awareness of Biodiversity Conservation has increased in the time period of this Action Plan. Of the 1,001 people surveyed through the Eurobarometer survey in December 2018, 70% understood the term biodiversity, a 6% increase on the previous survey.</p> <p>Between 2017-2019 over €550,000 has been channelled to local communities and schools under the “Development of Community Areas including Wildlife and Biodiversity” category of the Agenda 21 funding stream. Significant additional funding was also released for biodiversity through other categories, in particular “Training, Education and similar Awareness-Raising Initiatives”.</p> <p>National Botanic Gardens regularly provide Irish Botany Courses and Teagasc incorporate biodiversity and ecology into horticultural training. The NPWS regularly publish scientific reports and methodological guidance in the ‘Irish Wildlife Manual’ series.</p> <p>DCHG have committed to producing guidance documentation on the protection of biodiversity in designated areas, marine and the wider countryside for Local Authorities and relevant sectors.</p> <p>An Taisce Green Communities delivers monthly action based training events and field trips for community volunteer groups, supporting 30 community groups, with the aim of improving their local environment and enhancing biodiversity.</p> <p>Significant engagement is being undertaken at community level, of particular note is the work of the Irish Uplands Forum and the Community Wetland Forum, for example the Community Wetland Forum involve the community in actions on wetlands as early as possible giving communities a sense of ownership over their local wetland/Peatland. National Biodiversity Week 2019, supported by</p>

				<p>DCHG, among others, held events all over the country, communicating the importance of biodiversity, with a focus for 2019 on the connection between biodiversity and our food systems.</p> <p>The NBDC offer a series of workshops and training programmes on a range of topics, including identification of pollinators, Ireland’s mammals and seabirds and on species recording.</p> <p>The Heritage Council developed and presented a community-based advice series to members of the Heritage in Towns Network.</p> <p>The OPW’s inaugural Biodiversity Festival took place in the Phoenix Park in October 2019. An outreach programme is undertaken at key visitor sites, promoting biodiversity and citizen science projects.</p> <p>NPWS and the eNGO community have a presence at many national and local festivals.</p> <p>Biodiversity was a key theme at the 2019 Bloom show.</p>
3.1.3	Raise awareness in private sector organisations of impacts and dependencies on biodiversity and ecosystem services	Private sector organisations including: IFNC, BITCI, Ibec, ISME, IFA, IOOA, Sustainable Nation	In Progress	<p>Business in the Community Ireland published their Biodiversity Handbook for Business in February 2019, which provides case studies, a business case and practical tips for engaging employees and supporting biodiversity in the community, key contacts and resources for biodiversity action in businesses. https://www.bitc.ie.</p> <p>The Irish Forum on Natural Capital also organised specific initiatives to promote natural capital awareness for businesses, for example through seminars on Corporate Natural Capital Accounts and “breakfast meetings”.</p> <p>The annual Environment Ireland national conference attracts representatives from industries such as wastewater treatment, waste management and environmental auditing, but also typically includes sessions focused on biodiversity and climate change.</p> <p>In 2018, Lean Business Ireland and the Community Foundation supported Community Biodiversity Grants.</p> <p>The Dublin Port Company funded the Together for Biodiversity Awards.</p>

				<p>A National Farming for Nature Awards scheme was supported by Bord Bia, DCHG, DAFM, Burrenbeo Trust and the National Rural Network. Specific actions are proposed to raise private sector awareness of our dependence on biodiversity and ecosystem services.</p> <p>Coillte hosted a breakfast meeting on the subject of Biodiversity.</p>
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	DCHG, DCCAE, EPA, Heritage Council, NBDC, Academia, eNGOs	In Progress	<p>RTE funds or supports various wildlife or environment television series, such as the award winning Ireland’s Deep Atlantic, EcoEye and Living the Wildlife. The radio programme Mooney Goes Wild features many wildlife stories and is among the most listened to programmes on Irish radio, with regular contributions from DCHG and National Botanic Gardens staff. DCHG staff have also made contributions to Morning Ireland, RTE TV News, Radio na Gaeltachta, Ray D’Arcy and Connemara Radio.</p> <p>Teagasc contribute regularly on biodiversity related topics in the agricultural media, producing content such as Environmental newsletters and videos, see https://www.teagasc.ie/publications. The Teagasc video on hedgerows, for instance, recently reached over 40,000 people.</p> <p>The National Biodiversity Centre has published five issues of Biodiversity Ireland since 2017 and has issued numerous press releases and reports, including the annual National Biodiversity Indicators Status and Trends Report</p> <p>The ‘Crossing the Line’ promotional video for the National Biodiversity Conference was viewed over 70,000 times. There were 39 press items relating to the conference and over 350,000 tweet impressions in the month of February alone. NPWS has its’ own twitter handle with almost 9000 followers.</p> <p>DCHG provided grant funding of just under €137,000 for twelve local community groups and organisations for a variety of projects focused on the conservation and revitalisation of raised bog Special Areas of Conservation, Natural Heritage Areas and other raised bog areas.</p> <p>The IPCC hosted a ‘Call of the Curlew’ walk to mark World Curlew day.</p> <p>The NPWS held Insta-takeovers on various topics, including Killarney National Park, Connemara National Park, Glenveagh National Park, the Burren and Irish wetlands.</p>

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	DCHG, DAERA	Implemented	<p>The ' Together for Biodiversity Awards', supported by The Irish Wildlife Trust and Dublin Port, were launched at the National Biodiversity Conference in February 2019. The awards included categories for small and large community group projects, projects run by an Individual, school and farming projects.</p> <p>An Taisce’s Green Flag Environmental Awards and Pollinator Awards in association with the NBDC is awarded to local authorities and OPW sites which supports sustainable management & best practice including biodiversity.</p> <p>DCHG and Bord Bia, among others, under the Origin Green program, supported the ‘Farming for Nature’ awards for 2019, where farmers who have made a significant contribution to the protection or enhancement of nature on their farm are recognised.</p>
3.1.6	Include biodiversity and ecosystem services in relevant courses in primary, secondary and tertiary level education	DES, Academia and Research Institutions, DCHG, An Taisce, eNGOs, Heritage Council	In Progress	<p>Schools are participating in increasing numbers in biodiversity awareness activities, for example through talks provided by the Heritage Council’s Heritage in Schools scheme and through the An Taisce Green Schools programme, under which 1,000 schools have been awarded a biodiversity flag. School educational programmes are also run by Biodiversity in Schools, BnM, the Burren Beo Trust, the Irish Peatland Conservation Council (IPCC), the Marine Institute (MI), National Parks (NPWS), Inland Fisheries Ireland (IFI) and the EPA.</p> <p>Irish Universities that offer ecology and conservation courses include Trinity College Dublin, University College Dublin, National University of Ireland Galway and other Institutes of Technology (IT) around the country. Waterford Institute of Technology (IT) runs a 10 week Irish Wildlife Conservation course. Tralee IT offer a Degree programme in wildlife management. TCD run a specific Biodiversity and Conservation Masters course. GMIT offer an MSc in applied marine conservation and a range of relevant BSc courses.</p> <p>The Department of Education and Skills National Strategy on Education for Sustainable Development in Ireland 2014-2020 outlines the approach taken in Primary and Secondary schools to raising awareness of sustainable development issues by focusing on themes such as biodiversity through the Green Schools programme (see Action 3.1.6.).</p>

				Almost 60,000 children studied Science to Junior Certificate level and over 34,000 studied Biology to Leaving Certificate level in 2019.
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	Relevant Government Departments and agencies, Local Authorities	Limited Progress	While events such as the National Biodiversity Conference and National Biodiversity Week have taken place and the level of awareness of biodiversity in general is increasing, the development of a dedicated communications campaign is to be progressed. A commitment to develop such a campaign was made as a 'Seed for Nature', announced at the National Biodiversity Conference in 2019.
3.1.8	Engage landowners, farming and aquaculture sectors to promote the benefits of conservation and sustainable use of biodiversity	DCHG, DAFM, DHPLG, Marine Institute, Teagasc, LIFE projects, farmer representative groups and NGOs	In Progress	<p>Progress has been made during the timeframe of this plan to promote the benefits of conservation to the landowner community.</p> <p>The DAFM European Innovation Partnership Agri initiative, under the Rural Development Programme, has generated interest from farmers and landowners in contributing positively to the environment and in the sustainable use of biodiversity, funding two large projects and a further 21 smaller projects. A requirement of these projects is that they are locally- led, with a bottom up design involving landowners and farmers. The Hen Harrier Project, for instance, which began in 2017, has designed a Results Based Payments Scheme for the conservation of Hen Harrier habitat in 6 Hen Harrier SPAs, through a farmer consultation process involving 31 farmer meetings and over 500 participants. Many of the EIPs are developed with a similar approach, with a focus on farmer engagement.</p> <p>Teagasc continues their ongoing engagement with landowners, through the Teagasc Environment Programme, on a wide range of agricultural biodiversity issues, including management of farmland habitats through GLAS Courses, upland management through Commonage Management Planning and the threat posed by invasive alien species through the Teagasc National Invasive Alien Species Working Group.</p> <p>The EU LIFE raised bog restoration project (12 Special Area of Conservation sites) has been promoted online as well as through traditional media platforms. Opportunities to ensure coverage have been developed through the Project Launch, participation in schools initiatives such as the BT</p>

				<p>Young Scientist Competition, hosting of National Heritage Week events and an annual promotional drive at the National Ploughing Championships. The project team also engages with individual landowners in relation to the proposed restoration works on project sites.</p> <p>The Native Woodland Conservation Scheme, led by the DAFM and Woodlands of Ireland, provides financial incentive to farmers/landowners to enhance/restore existing native woodlands for conservation. The scheme operates alongside the Native Woodland Establishment Scheme, which focuses on native woodland creation. Periodic Native Woodland Scheme Training Courses are provided by the DAFM and Woodlands of Ireland, targeted principally at foresters, ecologists and owners. The most recent training course, held in Enniskerry, Co. Wicklow in November 2019, was attended by approximately 80 individuals.</p> <p>The National Farming for Nature Award was established in 2018, to promote and share stories of farmers across Ireland who are adjudged to be managing their land and livestock in a way that benefits nature in their area.</p>
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OBJECTIVE 4 CONSERVE AND RESTORE BIODIVERSITY AND ECOSYSTEM SERVICES IN THE WIDER COUNTRYSIDE

No.	Action	Lead/key partners	Status	Interim Report Summary Update
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	DAFM, Teagasc	In Progress	<p>The Green, Low-Carbon, Agri-Environment Scheme (GLAS) has a budget of €1.4bn, with approximately 50,000 participating farmers as part of the Rural Development Programme 2014-2020. As of 2019, area based actions under this scheme cover over 796,000 ha. The most popular action is low input permanent pasture (LIPP) with approximately 75% of GLAS participants choosing LIPP as one of their actions, followed by protection of watercourses from bovines with approximately 38% of GLAS participants.</p> <p>The Burren Programme is a locally-led Agri-Environment Climate (AEC) measure, also under the current RDP, the key objectives of which is the sustainable agricultural management of high nature value farmland in the Burren. 328 farmers presently participate in the programme, covering a total of 23,191 ha.</p> <p>The Hen Harrier Programme is another example of a locally led programme funded under the 2014-2020 RDP. The programme is targeted specifically at farmers with land designated for the protection of breeding Hen Harrier. The total area of land selected for contract under this scheme is currently 57,732.ha</p> <p>The Pearl Mussel Project is an EIP designed for farming within sensitive freshwater pearl mussel catchments. The total area of farmland in the Pearl Mussell Project Programme is 21,405ha.</p> <p>The Forest Service of the DAFM inputs into the Pearl Mussel EIP Steering Group in relation to the appropriate management of forest stands on participating farms and to advise on appropriate use of forests to mitigate a range of farming practices that have historically had an adverse impact on Freshwater Pearl Mussel habitat.</p> <p>Figures are not yet available for other EIP projects which are in the early stages of initialising Agri-environmental schemes. Independent evaluation of the GLAS scheme is carried out by ADAS. Evaluation of schemes is formally reported to the EC through an Enhanced Annual Implementation Report (EAIR) in 2017 and 2019 and the ex-post evaluation in 2024. The latest report was updated in November 2018 and published on https://enrd.ec.europa.eu/evaluation/publications in June</p>

				<p>2019. 26 actions from the scheme were analysed on a sample size of 30 sites, deemed to be sufficient to capture the majority of bird and habitat actions. At an overall level, the baseline survey found that sample sites scored reasonably highly on the individual action measures of success. The final phase of the field survey on biodiversity actions will take place in 2020 with a report due in early 2021.</p> <p>In addition to the above schemes, DCHG also operate a natterjack toad pond scheme, a corncrake grant scheme and farm plan schemes.</p>
4.1.2	Describe High Nature Value (HNV) farmland and develop measures and support tools to maintain and enhance its biodiversity and ecosystem services	DAFM, DCHG, Teagasc, Heritage Council, Academia and Research Institutions	In Progress	<p>The IDEAL-HNV project funded by the Research Stimulus Fund/DAFM identified the distribution and extent of agricultural land of High Nature Value (IDEAL-HNV) in Ireland. A national scale map of HNV farmland likelihood was created at an Electoral Division scale along with a user-friendly farm-scale HNV farmland identification app. Using 5 variables, the CORINE landcover data was split into three classes: farmed semi-natural land, semi-natural land and non-semi-natural land; average stocking density; hedgerow density; river and stream density and soils diversity.</p> <p>This information can be used for assessment of policy objectives and targeting of financial supports for HNV farmland. The HNV indicator map can be viewed at http://www.high-nature-value-farmland.ie/hnv-distribution.</p> <p>DAFM, with co-funding from the EPA, have funded a HNV FarmForBio project to develop a (geo-spatial) methodology to identify, characterise and map the national extent of HNV farmland and forest areas. It will investigate an approach towards assessing the quality (in terms of biodiversity and ecosystem service provision) of HNV farmland and forests. The research will model incentives for the maintenance and enhancement of HNV farmland and forest areas, not only for biodiversity, but also for associated ecosystem services (including carbon storage and water quality). This approach will facilitate the development of an integrated policy framework incorporating a range of innovative agri-environment climate measures and areas of biodiversity enhancement for forests and farmland. The project will provide recommendations on the management of HNV farming and forest areas and it will establish systems for monitoring change.</p>
4.1.3	Implement Bord na Móna's Biodiversity Action Plan 2016-2021	BnM	In Progress	<p>Bord na Móna continues to engage with a range of stakeholders, including the Peatlands Strategy Implementation Group, in relation to the delivery of actions and objectives of the Bord na Móna Biodiversity Action Plan.</p>

	and any revisions of the Plan			<p>A pilot Natural Capital study was carried out in 2018/2019. This project worked with IDEEA consultants to explore the application of United Nations SEEA methodology and the Natural Capital Approach to develop Natural Capital accounts for Bord na Móna sites and to develop value for Bord na Móna in the areas of reporting, decision-making and communications.</p> <p>Cutaway rehabilitation is ongoing, including work on the Littleton Bog Rehabilitation Programme, Corlea Bog and Edera Bog.</p> <p>As part of a company re-structure in 2019, a dedicated operational unit was set up to plan, progress and report on de-commissioning and rehabilitation. This, in addition to the cessation of industrial peat extraction across a significant area of the Bord na Mona estate, will significantly progress peatland rehabilitation in 2020 and beyond.</p> <p>A formal review of the Action Plan will take in 2020.</p>
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	DAFM	In Progress	<p>The Forestry Programme 2014-2020 Midterm Review was completed in February 2018 and proposed measures to address issues raised during that process are being implemented. These include specific measures to increase the level of broadleaf afforestation and refinements to the Native Woodland Scheme package (see FS-DAFM Circular 05/2018).</p> <p>The area of woodland managed for conservation under the Native Woodland Conservation Scheme between March 2016 – April 2019 was 428 ha. The area of native woodland established under the Native Woodland Establishment Scheme from 2017-2019 was 1,573 ha.</p>
4.1.5	Progress implementation of BirdWatch Ireland's Group Species Action Plans for birds (e.g. lowland farmland birds,	BWI and other partners listed in their plans	In Progress	<p>BirdWatch Ireland's Group Species Action plans for birds were developed on foot of the outcome of the European Court of Justice Ruling (Birds Case (C-418/04)) against the Irish State in relation to the lack of coherent planning and conservation of a suite of bird groups. In 2015 BirdWatch Ireland undertook a prioritisation exercise of the actions. The responsibility for the implementation of the</p>

	<p>riparian birds, woodland and scrub birds, upland birds and Lake, Fen and Turlough birds)</p>			<p>actions lies with a range of stakeholders including government departments including NPWS, agencies, NGOs (including BirdWatch Ireland) and other bodies. Funding was sought from government to coordinate the implementation of these actions especially in relation to coordination of actions amongst the a wide breadth of partners but this was not forthcoming. This has hampered delivery of the actions.</p> <p>BirdWatch Ireland has progressed several actions within its responsibility. Several actions are completed and some partially completed with funding being a limiting factor. Those include, but are not limited to,:</p> <ul style="list-style-type: none"> - Bird sensitivity mapping for terrestrial wind farms has been completed; Trial of seabird sensitivity mapping for marine renewable energy development has been undertaken and funding is sought to progress this. Feasibility of bird forestry sensitivity mapping was developed but this has not progressed at government level - Seabird 4 almost complete (2015-2020) - Ongoing monitoring of wetland birds through funding from NPWS - Ongoing countryside bird monitoring through funding from NPWS - Coordination of Garden Bird Survey in place - A range of Single Species Actions have been undertaken: Barn Owl- where work on the Campaign for Responsible Rodenticide Use changes/improvements have been brought to the requirements of the use of rodenticides. In addition, progress has been made on increasing awareness and standards in best practice rodent control to address impacts of rodenticide on Barn Owls. Through research funded by Transport Infrastructure Ireland we have developed mitigation measures to address collisions between Barn Owls and cars. - The Swift Conservation Project and Urban Birds Project have engaged people and communities in the conservation of Swifts and other urban birds - A significant amount of advocacy work has been undertaken which has made progress to address impacts on bird groups from agriculture, forestry, fisheries, peat extraction and renewable energy deployment - Assessment undertaken of bird populations in relation to forest management measures and different forest cover scenarios (e.g. Merlin and bird populations) via the
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				<p>Avian Diversity and Afforestation Planning Tools Project (ADAPT) and the Supporting Hen Harrier in Novel Environments (SHINE)</p> <ul style="list-style-type: none"> - All Ireland Curlew Survey 2015-17 completed and CABB project carrying out annual monitoring of Donegal and Sligo Machair sites 2017-2021.
4.1.6	Review, update and publicise the National Plant Conservation Strategy including updating the strategy in line with current global targets	Botanic Gardens, DCHG	Implemented	<p>Review of National Strategy for Plant Conservation complete and progress on actions was published in 2019.</p> <p>http://botanicgardens.ie/2019/04/09/irelands-national-strategy-for-plant-conservation-progress-to-2020/</p>
4.1.7	Implement the National Genetic Conservation Strategies for animals and plants	DAFM, Irish Seed Savers Association	In Progress	<p>Work is ongoing at the NBG on genetic variation of heritage varieties/landraces of barley, oat and wheat.</p> <p>The NBG, working in conjunction with the Department of Agriculture, Food and the Marine will use best protocols for seed banking, with a view to developing links with external partners (potentially cross border) to establish the seed bank as an all-island resource.</p> <p>The OPW have approved funding for the National Seed Bank and the bank is forecast to be operational by autumn 2020. Some seeds have been collected already and will be transferred to the seed bank in due course. The National Botanic Gardens, working in conjunction with the Department of Agriculture, Food and the Marine will use best protocols for seed banking, with a view to developing links with external partners (potentially cross border) to establish the seed bank as an all-island resource.</p> <p>DAFM has approved funding for the National Botanic Gardens to review and update the network of gene conservation units for target native forest species in Ireland. DAFM has agreed to join phase VI (2020-2024) of EUFORGEN – the European Forest Genetic Resources Programme. EUFORGEN is an international cooperation programme that promotes the conservation and sustainable use of forest genetic resources in Europe as an integral part of sustainable forest management. As part of the new phase DAFM has agreed to act as the national focal point for updating the EUFGIS</p>

				information system; an online information system for forest genetic resources (FGR) inventories in Europe.
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	NBDC and other actors listed in the plan	In Progress	<p>96% of the actions within the All-Island Pollinator Plan (AIPP) have been undertaken.</p> <p>Several guidelines for pollinators for various sectors/stakeholders have been published, more recently for Golf courses and Transport corridors. 1,100 sites were logged on the “Actions for Pollinators” map.</p> <p>The Plan has received considerable media coverage, which demonstrates its ongoing success, particularly in the area of outreach and knowledge transfer.</p> <p>The Bumblebee Monitoring Scheme has shown an overall loss of 16.6% across bumblebee populations since 2012.</p> <p>The Nitrates Derogation expert review group recommended that derogation farmers must implement a measure from the AIPP as a condition of their derogation plan.</p>
4.1.9	Implement “Deer Management Strategy in Ireland - A Framework for Action	Irish Deer Management Forum, DAFM	In Progress	<p>An outline Deer Management Strategy is contained in 'Deer Management in Ireland – A Framework for Action', launched in 2015 by the Minister for Agriculture Food and the Marine and the Minister for Arts, Heritage and Gaeltacht. Implementation and further policy development are assisted by The Irish Deer Management Forum, a partnership body.</p> <p>Although the Deer Management Forum has been inactive, DAFM have been progressing the strategy, for example they have funded “A smart and open-science approach to monitor and analyse deer populations in the Republic of Ireland and set the scene for evidence-based deer management”.</p> <p>OPW’s Deer Management Policy for wild and farmed deer implemented at all relevant sites countrywide.</p>
4.2.1	Continue to protect, enhance and monitor the ecological status of water during the second cycle	EPA, DAFM, DHPLG, IFI, DCHG, Local Authorities,	In Progress	Ireland’s 2 nd River Basin Management Plan was published in April 2018 and contains a comprehensive programme of measures, with the nitrates directive as the main agricultural measure and includes the innovative Agricultural Sustainability Support & Advisory Programme (ASSAP) as a targeted measure. The ASSAP is an innovative Government/ industry collaborative initiative running from 2018 to 2021. It involves the provision of free agricultural sustainability

	<p>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</p>	<p>Academia and Research Institutions, Waterways Ireland, Marine Institute, LAWPRO</p>	<p>advice by specialist sustainability advisors (through LAWPRO) to farmers in 190 priority catchments, known as 'Areas for Action'.</p> <p>A new innovation under the 2nd cycle RBMP is the Local Authority Waters Programme (LAWPRO), a shared service on behalf of the 31 county councils. LAWPRO has a staff of 60 scientists and community water officers located across the country. Its objective is to support the DHPLG, EPA, local authorities and the many implementing bodies to achieve the RBMP targets. The Catchment Assessment Team analyses the causes of poor water quality in the 190 areas for action and makes referrals to the implementing bodies. The Communities Team engages local groups with their water environment (including through financial support for small projects using the Community Water Development Fund) and co-ordinates among all stakeholders at local, regional and national level. There is an innovative governance structure that allows issues arising at catchment and community level be directed upwards to where national policy is debated at the Water Policy Advisory Committee. LAWPRO and the NPWS cooperate closely at the local level, in particular to meet the water objectives for designated protected areas, on endangered species such as the Freshwater Pearl Mussel and to protect high status objective waters.</p> <p>The sustainability and efficiency gains will be achieved through improved nutrient management with more targeted use of fertiliser, better farmyard practice, and the development of new approaches to reducing nutrient losses in critical source areas. The Forest Service of the DAFM is working closely with LAWPRO in relation to assessment of forestry pressures and proposals for mitigation, outlined in the DAFM 2018 publication <i>Forests & Water: Achieving Objectives under Ireland's River Basin Management Plan 2018-2021</i>. In addition, new Environmental Requirements for Afforestation were introduced in December 2016, a new Felling and Reforestation Policy was implemented in May 2017 and the DAFM publication <i>Woodland for Water</i> sets out how new native woodland and an undisturbed water setback can be used in combination to deliver meaningful ecosystem services that protect and enhance water quality and aquatic ecosystems.</p> <p>https://www.housing.gov.ie/water/water-quality/river-basin-management-plans/river-basin-management-plan-2018-2021</p> <p>The EPA 2013-2018 Water Quality Report, published in 2019, provides an assessment of the ecological health of Ireland's rivers, lakes, canals, groundwaters, estuaries and coastal waters against the standards and objectives set out in the EU Water Framework Directive and National</p>
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				<p>River Basin Management Plan 2018-2021. The analysis is based on the assessment of biological and environmental data collected from 2,703 surface water bodies and from 514 groundwater bodies over the period 2013-2018. The report assesses 52% of surface water bodies as in satisfactory ecological health. This compares with 55.4% at satisfactory status for the last assessment period of 2010 – 2015, a decrease of 2.6%.</p> <p>https://www.epa.ie/pubs/reports/water/waterqua/waterqualityinireland2013-2018.html</p> <p>Fish contribute to the ecological status of water. IFI continue to deliver a national fish monitoring programme to support assessment of water body status and is working closely with other agencies to understand issues affecting fish populations with a view to supporting the programme of measure outlined in the National River Basin District Management Plan 2018 to 2021. The National Barrier programme (NBP) has created a national geodatabase of “potential” barriers to fish passage, cataloguing 73,055 structures in the Irish river network. To date 15,700 of these “potential Barriers” have been assessed with 2,054 being barriers to fish passage. The NBP has assessed the effect of weirs and the effectiveness of existing passes on fish passage in the Shannon main channel upstream of Killaloe, the Slaney, Suir, Nore, Feale, Deel and Munster Blackwater. Since 2010 IFI has instigated 50 large scale barrier remedial works, removing 14 barriers, installing 29 fish passage solutions and creating 3 bypass channels for fish passage.</p>
4.2.2	Irish Water to implement its Water Services Strategic Plan (2015-2040), in particular its objective to protect and enhance the environment	Irish Water, DHPLG	In Progress	<p>The Water Services Strategic Plan has a specific objective to protect and enhance the environment. The strategic aims of this objective are:</p> <ul style="list-style-type: none"> - Ensure that Irish Water services are delivered in a sustainable manner which contributes to the protection of the environment - Operate over water services infrastructure in a manner that supports the achievement of water body objectives under the Water Framework Directive and our obligations under the Birds and Habitats Directive - Manage all our residual waste in a sustainable manner. <p>Irish Water is preparing a Sustainable Energy Strategy and a Climate Change Adaptation and Mitigation Strategy.</p> <p>As identified in the River Basin Management Plan, over the period 2017-2021, Irish Water will invest approximately €1.7 billion in waste-water projects, programmes and asset maintenance. This investment will include €880 million for 255 major waste-water treatment projects, €350 in</p>

				<p>capital investment in collection systems in 41 areas and €465 million for capital maintenance and national upgrade programmes.</p> <p>Of the 255 projects, 101 were planned to be completed by the end of 2018, a further 87 by the end of 2021 and the remaining 67 by the end of 2025. In fact, 104 were completed by the end of 2018, a further 1 was completed in Q1 2019, and a further 16 due for completion in 2019.</p> <p>Irish Water has developed and is implementing its National Wastewater Sludge Management Plan and is preparing its' National Water Sludge Management Plan as part of the National Water Resources Plan.</p> <p>In addition, Irish Water has completed Ecological Management Plans for 55 of its sites, which identifies site specific measures to enhance to local biodiversity at each site.</p>
4.2.3	<p>Implement recommendations of EPA STRIVE Report Series No. 99 (Management Strategies for the Protection of High Status Waterbodies) including, amongst other measures: prioritisation for protection measures; planning/licensing control; assessment of cumulative impacts; and integrated monitoring and protection</p>	<p>EPA, Local Authorities, DAFM, LAWPRO</p>	<p>In Progress</p>	<p>Recommendations have been taken on board in the context of the RBMP published in April 2019. The establishment of the Blue Dot catchment programme is an important measure in the RBMP with the aim of protecting and restoring high ecological status to a network of river and lake catchments. DAFM Forest Service is currently working closely with the EPA and LAWPRO regarding measures including native woodland establishment and native woodland conservation for the protection of high ecological status waterbodies. In addition, DAFM Forest Service and Coillte are active participants in the Blue Dot Programme and are co-beneficiaries of "Water for Life" LIFE IP. DAFM will also shortly launch the Creation of Woodlands on Public Lands Scheme, which targets the creation of new native woodlands on public lands.</p> <p>LAWPRO has appointed a Blue Dot Scientist to facilitate the Blue Dot Catchment Steering Group to specifically address the high status objective waters, based on the STRIVE Report. The Steering group is organising a 'Visioning Workshop' for early March 2020.</p>
4.3.1	<p>Ensure that Flood Risk Management (FRM) planning and associated SEA, EIA and AA, minimises loss of biodiversity and</p>	<p>OPW</p>	<p>In Progress</p>	<p>A Natural Water Retention Measures working group has been set up, this to research a more catchment management approach to flood risk management. This is a multi-agency group led by EPA, with OPW as one of the main contributors.</p> <p>OPW are carrying out research on catchment wide, non-structural flood risk management in cooperation with EPA and Trinity College Dublin, this research project is called Slow Waters.</p>

	ecosystem services through policies to promote more catchment-wide and non-structural flood risk management measures			<p>OPW is funding a PHD on Natural Water Retention Measures in cooperation with EPA and Trinity College.</p> <p>A new tender brief has been developed by OPW for the delivery of new Flood Relief Schemes in response to the CFRAM Catchment Management Plans. The brief asks consultants to give greater consideration to non-structural measures where they are viable.</p>
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	OPW, IFI	In Progress	<p>The OPW has produced new Environmental Guidance on Drainage Maintenance and Construction, a practical handbook for drainage maintenance staff in carrying out their activities, which considers the implication for drained wetlands, among other habitats and has also created a position in drainage for an Ecologist.</p> <p>OPW and DCHG are progressing Action A15 through the Peatland Implementation Strategy to develop a pilot conservation management plan for Tory Hill SAC.</p>
4.4.1	Ratify the International Convention for the Control and Management of Ships' Ballast Water and Sediments	DTTAS, DFAT	In Progress	The required national legislation is being prepared and reviewed by DTTAS.
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	DCHG, DAERA, NBDC, IFI, TII, Waterways Ireland, Local Authorities, local community groups, eNGOs	Limited Progress	There has been little progress on in house/ all Ireland plans. However, there is ongoing whole island cooperation in the context of implementation of the EU IAS Regulation and cooperation on implementation of respective national legislation. This cooperation takes place in the context of discussions among several EU Member States, including UK and IE, on dealing with the threat posed by ponto-caspian species. Additionally, the British Irish Council (BIC) INNS Working Group convenes occasionally to build on discussions and communications between member administrations, including NI authorities and Irish Government, on IAS matters arising. The Invasive Alien Species Forum gathers and disseminates information on IAS on farmlands. Training

	<p>including: development and adoption of biosecurity plans in relevant state bodies; a Rapid Response Protocol for the island of Ireland; and coordination and collation of invasive species surveillance and monitoring data; and work with Northern Ireland and UK authorities on invasive species of mutual concern</p>	<p>and the Loughs Agency, LAWPRO</p>		<p>on IAS is mandatory for IFI field staff and is delivered in other public bodies, such as OPW, Local Authorities, etc.</p> <p>LAWPRO has been very active during 2018 and 2019 on the control of the spread of the crayfish plague in Irish rivers, including working closely with the NPWS on introducing and advertising biosecurity measures.</p>
<p>4.4.3</p>	<p>Continue and enhance measures for eradication, where feasible, control and containment of invasive species</p>	<p>IFI, DCHG, Local Authorities, TII, Waterways Ireland, National Botanic Gardens, local community groups, LAWPRO</p>	<p>In Progress</p>	<p>DCHG piloted a targeted grant scheme for local authorities in 2018 to assist with the implementation of actions contained in this Plan which included a funding stream to specifically target invasive alien species. The scheme was rolled out again in 2019 with increased funding and grants have been awarded to a range of projects across the 28 Local Authorities who applied.</p> <p>Six Local Authorities have Invasive Alien Species Plans, with 13 more Local Authorities preparing plans. The NBG, in conjunction with Fingal Co Council, has carried out a survey of alien garden escapes in Howth. Organic herbicide trials are ongoing.</p> <p>The OPW has conducted a survey of invasive plant species in OPW Historic Properties.</p> <p>There is an ongoing programme of management of Rhododendron and other invasive species in the National Parks.</p> <p>LAWPRO is working with local communities and councils in a number of areas across the country on the eradication of invasive alien species from the water environment.</p> <p>IFI continue to support extensive year-round control operations to reduce the socioeconomic and ecological burden of the invasive weed Lagarosiphon in Lough Corrib. In recent times</p>

				approximately 133 ha/annum have been treated, allowing native flora and fauna to re-establish at many sites and restoring the recreational use of previously choked bays. IFI commenced an innovative research programme in 2019 to augment control operations by accessing new harvesting techniques, mapping via remote sensing technologies (unmanned aerial drones, satellites imagery, sub-aquatic remotely operated vehicles and hydroacoustics) and modelling the influence of habitat and environmental factors on its distribution.
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	DAFM, Coillte, Local Authorities, TII, DCHG, OPW	In Progress	<p>Nurseries in Ireland that supply native trees for the DAFM GLAS measure 'Planting a grove of native trees' are required to be registered with the Forest Service to certify that the plants sold are of native origin. Under DAFM's Native Woodland Schemes, if there is a shortage of native oak supply, a temporary derogation may be issued to permit the use of certified plants from other EU countries of similar climatic conditions. The plants must have Master Certificates of provenance. This is a requirement under the Forest Reproductive Material (FRM) Directive (Council Directive 1999/105/EC). There is a requirement under the Forest Programme 2014-2020 Mid-term review to increase broadleaf planting to a minimum 15% in afforestation applications.</p> <p>The NBG showcases native plants in the "Wild Ireland" area. The NBG helps also through teaching about native planting on the Teagasc Horticulture courses.</p> <p>Training workshops have been developed for a range of Local Authority staff and relevant community groups by the Heritage Council.</p> <p>The Phoenix Park has initiated a pilot project of native seed collection for its tree planting programme.</p>
4.4.5	Continue to produce Risk Assessments for potentially invasive non-native species	NBDC, DCHG	In Progress	Two Rapid Risk Assessments completed, neither qualified for progression for comprehensive risk assessment.
4.4.6	Publish legislation to address required provisions under the EU Regulation on invasive	DCHG, DCCAE, IFI, NBDC	In Progress	Draft legislation to implement the EU IAS Regulation and to update existing national IAS legislation is at advanced stage and will be progressed to completion over Q1 2020.

	alien species (No. 1143/2014) and on responsibilities and powers regarding invasive alien species, giving IFI responsibility for aquatic invasive species			
4.4.7	Work with horticultural and pet trades to prevent the introduction and spread of invasive alien species	DCHG, NBDC	In Progress	Ongoing. Notification of crayfish regulations sent to shops and trade magazines September 2018. DCHG provided input to the DAFM Code of Practice for Sellers and Suppliers of Pet Animals, published in December 2019, outlining the obligations to comply with EU regulation on the importation of alien species.
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	DCHG, An Garda Síochána, Revenue's Customs Service, DAFM, Dept of Justice	In Progress	The NBG provided two half day sessions to staff who manage CITES listed species during 2019 and, as the CITES Scientific Authority, can provide training courses on CITES species issues to other organisations.
4.5.2	Provide adequate training in Wildlife Crime detection and enforcement to all DCHG enforcement staff	DCHG	In Progress	In 2018, the NPWS established an internal Wildlife Crime Group and a Wildlife Crime workshop and conference was organised. The NBG provided CITES training to staff and Zoo licensing inspectors are to provide a CITES and Bird of Prey training course to DCHG staff. There continues to be ongoing and more formalised interaction between NPWS and other Government Departments and An Garda Síochána in relation to wildlife crime e.g. RAPTOR (DCHG,

				<p>DAFM and DPER), Operation Bambi (DCHG and AGS), on the ground engagement (e.g. with AGS, DAFM, IFI, Local Authorities), etc..</p> <p>New Conservation Rangers have been sanctioned as Authorised Officers and have completed induction training, in addition to on the job training.</p>
4.5.3	Publish national CITES enforcement plan	DCHG, An Garda Síochána, Revenue's Customs Service, DAFM	Limited Progress	Not progressed.
4.5.4	Continue to enforce the Wildlife Acts and Regulations, in particular the Habitat Regulations	DCHG, An Garda Síochána, Revenue's Custom Service, EPA, DAFM	In Progress	<p>A total of 57 cases were submitted to the Chief State Solicitor's Office for prosecution under the Wildlife Acts and the EU Birds and Habitats Regulations since 2017. Of these, there have been 36 successful prosecutions.</p> <p>DAFM carry out approximately 1,300 cross compliance inspections annually, including checks for birds, habitats and species under the Habitats Regulations.</p>
4.5.5	Continue to enforce and report upon implementation of the European Communities (Environmental Liability) Regulations	EPA	Limited Progress	Information unavailable at time of report.
4.5.6	Train enforcement officers in other agencies that operate in the field on wildlife law	DAFM, Agricultural Inspectors, Fisheries Officers, EPA	In Progress	<p>All DAFM AES agricultural inspectors received training in June 2018 on habitats and species identification and wildlife law (national and EU) by an AES ecologist and training on invasive species in September 2018 by INVAS external consultants.</p> <p>Training on habitat identification including Annex I habitat identification was provided by the Forest Service Ecologist and professional ecologists, to Forest Service District Inspectors and Registered Foresters in 2017 and 2018. The Native Woodland Scheme training courses, held periodically by the DAFM and Woodlands of Ireland, are open to officers of various statutory</p>

				<p>bodies, including NPWS, Inland Fisheries Ireland and County Councils. The most recent course was held in Nov. 2019.</p> <p>The NBG, as CITES Scientific Authority provides training courses on CITES species ID and workshops explaining CITES regulations.</p>
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OBJECTIVE 5 CONSERVE AND RESTORE BIODIVERSITY AND ECOSYSTEM SERVICES IN THE MARINE ENVIRONMENT

No.	Action	Lead/key partners	Status	Interim Report Summary Update
5.1.1	Develop and implement a Marine Spatial Plan for Ireland	Inter-Departmental Marine Coordination Group, DHPLG	In Progress	<p>Implementation of Ireland's Integrated Marine Plan - Harnessing Our Ocean Wealth - continued in 2019 with the sixth Annual Review of Progress published in June 2019.</p> <p>Directive 2014/89/EU, establishing a Framework for Marine Spatial Planning was transposed into Irish legislation by Part 5 of the Planning and Development (Amendment) Act 2018.</p> <p>Following the publication and consultation on the National Marine Planning Framework Baseline Report in late 2018, DHPLG have drafted a National Marine Planning Framework, which was published for consultation in October 2019. The final plan is scheduled to be submitted to Europe by March 2021.</p>
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)	DHPLG, DCCAE, Marine Institute, DAFM, Irish Water, Local Authorities, IFI, DCHG, EPA, An Taisce , LAWPRO	In Progress	<p>In April 2018, the Government published the second River Basin Management Plan for Ireland, covering the period 2018-2021. The Plan sets out the actions that Ireland is taking to improve water quality and achieve 'good' ecological status in water bodies (rivers, lakes, estuaries and coastal waters) during this period. Actions are progressing with a particular focus on the 190 Priority Areas for Action. Preparations have also started for the third River Basin Management Plan, due to be published by December 2021.</p> <p>As identified in the River Basin Management Plan, Irish Water is implementing measures in relation to urban waste-water pressures at four designated Bathing Waters areas. Together with Galway County Council, Irish Water has completed improvement works to the wastewater network infrastructure at Ballyloughane, Co. Galway, and at Clifden, Co. Galway, where further operational improvements are underway. In addition, works are underway at Rush South and Loughshinny in Co. Dublin. Investigation is being underway by Irish Water, Dublin City Council, Dun Laoghaire-Rathdown County Council and the Acclimatize research project to identify potential solutions for non-compliances at Merrion Strand and Sandymount Stand, within Dublin Bay.</p>

				<p>In 2019 there were 87 Blue Flags awarded, comprising of 80 beaches and 7 marinas. There were 62 Green Coast Award sites throughout Ireland for 2019. These beaches have all met excellent water quality and are managed by the local authority in partnership with local Clean Coasts groups.</p> <p>In 2016 there were 44 agglomerations discharging untreated sewage. By 2018, this was reduced down to 38 agglomerations and by 2021, this will be further reduced to 6 agglomerations.</p> <p>LAWPRO's work in the 190 areas for action of the RBMP is crucial in helping to control the level of pollutants entering our marine and coastal habitats. It also works with local communities along the coastline to assist them further engage in the protection of water quality.</p> <p>The Clean Oceans Initiative was launched by the DAFM in January 2019 to address marine plastic pollution being encountered routinely by Irish sea-fishing boats. 96% of Irish trawlers signed up in the first 12 months of the Clean Oceans Initiative, collecting approximately 202.3 tonnes of marine plastic waste from 12 of Ireland's busiest fishing ports and 53.7 tonnes of used fishing nets.</p>
5.1.3	Implement OSPAR recommendations on Habitats and Species	DHPLG, DFA, Marine Institute, DCHG	In Progress	<p>Maërl beds have been mapped for ROI and with a few exceptions they largely occur within SACs. Within these sites they are afforded the highest degree of protection. No disturbing activity is allowed to occur over the beds and within a 50m buffer zone around them. Intertidal <i>Mytilus edulis</i> mussel beds are afforded similar protection where no disturbing activity is allowed to take place on the beds. Under the EMFF Ireland is mapping its potential offshore reef habitat. This programme intends to map the cold water coral species of Lophelia, Madrepora and Solenosmilia and deep water coral gardens and sponge fields within its EEZ. Vulnerable communities such as Sea pens have also been recorded under this survey. A number of large SACs have been designated for Cetaceans within Irish Coastal Waters. Six offshore SACs have been designated for the Annex I habitat Reefs. The reef within these designated sites include geogenic reef with examples of coral and sponge gardens and well as the biogenic cold water coral.</p> <p>European Maritime and Fisheries Fund 2017-2020 (EMFF) is funding a series of new and on-going MSP projects. Through these, the Marine Institute are collecting, collating and mapping accurate, up-to-date spatial and temporal information on marine ecosystems and human activities taking place within Ireland's waters. The products developed will aid informed decision making through the National Marine Planning Framework and also support the implementation of a number of cross-cutting EU policies, such as MSFD, NATURA, Climate Change and CFP.</p>

5.1.4	Promote the incorporation of ecological engineering features in new and existing structures such as coastal defences	OPW, Local Authorities, Research Institutes	In Progress	The OPW published <i>Environmental Guidance on Drainage Maintenance and Construction</i> , a practical handbook for drainage maintenance staff in carrying out their activities. Procedure EP13 and EP32 of that guidance promotes ecological engineering features.
5.2.1	Continue to ensure the Common Fisheries Policy (CFP) and marine fisheries provide for the conservation of fish species and marine biodiversity	DAFM	In Progress	According to MI Stockbook 2018 and Shellfish Stockbook 2018, there are 71 stocks which are fished at or below their maximum sustainable yield (MSY) and there are 28 stocks whose biomass levels are below those capable of delivering MSY. Of stocks wholly or partially occurring in Irish EEZ waters, 28 are now managed under the Western Waters Multi-Annual Plan (Regulation 2019/472). In addition 3 stocks are managed under the North Sea Multi-Annual Plan (Regulation 2016/0238). According to the MI Stockbook 2019, 2 further (straddling) stocks are managed under agreements between the EU and third countries.
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	DAFM	In Progress	According to MI Stockbook 2018 and Shellfish Stockbook 2018, there are 28 stocks whose biomass levels are below those capable of delivering MSY, out of 134 assessed. 46 stocks were above levels that could support MSY and 60 were unknown. The North Western Waters Multiannual Plan aims to keep stocks being fished at or below F_{msy} and maintaining their biomass above $MSY B_{trigger}$.
5.2.3	Adopt and implement provisions under Common Fisheries Policy (CFP) for the	DAFM	In Progress	Of stocks wholly or partially occurring in Irish EEZ waters, 28 are now managed under the Western Waters Multi-Annual Plan (Regulation 2019/472). In addition 3 stocks are managed under the

	establishment of appropriate management measures (e.g. no-take zones) that conserve biodiversity and fish stock levels			North Sea Multi-Annual Plan (Regulation 2016/0238). According to the MI Stockbook 2019, 2 further (straddling) stocks are managed under agreements between the EU and third countries.
5.2.4	Take concerted action to combat illegal, unreported and unregulated fishing	SFPA, IFI	In Progress	The Sea Fisheries Protection Authority (SFPA) publishes an Annual Report which contains information on its Control Activities and are available for 2017 and 2018 on its public website www.sfpa.ie . In partnership with the Naval Service the Sea Fisheries Protection Authority (SFPA) undertake patrols and Inspections at sea and ports throughout Ireland's EEZ. During the timeframe of this Plan, approximately 2,700 inspections were carried out at sea, 6,400 in ports and 140 in fisheries (provisional data provided for 2019).

OBJECTIVE 6 EXPAND AND IMPROVE MANAGEMENT OF PROTECTED AREAS AND SPECIES

No.	Action	Lead/key partners	Status	Interim Report Summary Update
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	DCHG	In Progress	As of December 2019, final formal designation through Statutory Instrument of 270 of 439 Special Areas of Conservation is now completed. The work of drafting Statutory Instruments for the remaining sites continues to be priority work and in the interim, the remaining sites are all protected under law. 150 of 154 Special Protection areas are designated by Statutory Instrument.
6.1.2	Develop and utilise licensing and consent systems to facilitate sustainable activities within Natura 2000 sites	DCHG, DAFM, DHCPLG, Local Authorities, EPA	In Progress	<p>In order to protect the ecology of Special Areas of Conservation and SPAs, certain activities within these sites may only be undertaken with the prior consent of the Minister for Culture, Heritage and the Gaeltacht or with the consent of another appropriate public authority (ARCs). This system is in place for sites selected for conservation as SACs and SPAs. The EPA AA GeoTool application, launched in 2017 helps with the data gathering process of Stage 1 and Stage 2 Appropriate Assessments in Natura sites by allowing users to select a point on the map and then search for SACs and SPAs within a defined distance/ upstream/ downstream of the point.</p> <p>Appropriate Assessment (AA) was carried out for the RDP 2014-2020 – see https://www.agriculture.gov.ie/media/migration/agarchive/ruralenvironment/preparatoryworkfortherdp2014-2020/RDP20142020DraftAppropriateAssessmentReport160514.pdf. DAFM work with DCHG / NPWS on case by case referral basis where EIA screening or consent occurs with Natura 2000 sites.</p> <p>The Forest Service (DAFM) appropriate assessment procedures are currently undergoing a significant revision in response to rulings from the European Court of Justice and the Forestry Appeals Committee.</p>

				<p>The EPA undertake Stage 1 Screening for Appropriate Assessment (AA) and where necessary and Stage 2 Appropriate Assessment of any plan or project for which an application for consent is received.</p> <p>DCCAE also has developed its assessment approach for AA (and EIA), with the setting up of its separate EAU (Environmental Assessment Unit)</p>
6.1.3	Publish detailed site-specific conservation objectives for Natura 2000 sites	DCHG	In Progress	As of December 2019, there are 364 of 583 Site Specific Conservation Objectives published for 37 SPAs and 327 SACs.
6.1.4	Manage National Parks and Nature Reserves to a high standard	DCHG	In Progress	Since 2017, nearly €20m in programme funding (€11.124m current and €8.034m capital) has been expended directly on conservation, operational management and upgrading of our 87,000 hectare network of National Parks and Nature Reserves. Wicklow Mountains National Park was extended with the addition of almost 4,900 acres of Dublin Uplands at Glenasmole, and the expansion of Ballycroy National Park expanded with the transfer of Coillte's significant holdings at Wild Nephin to create 11,000 hectares of wilderness on State-owned lands.
6.1.5	Implement the National Peatland Strategy	DCHG, BnM	In Progress	An interim review for the National Peatland Strategy will be published in 2020.
6.1.6	Implement the National Raised Bog Special Areas of Conservation (SAC) Management Plan (2017-2022)	DCHG, BnM	In Progress	<p>The EU LIFE programme funded Living Bog project, which commenced in 2016 and will conclude at the end of 2020, aims to restore the favourable conservation condition and increase the area for active raised bog by 277 hectares on the 12 raised bog special area of conservation project sites (total area of 12 SACs is 2,649ha). Restoration works on six sites with a total area of 1420ha have been completed to date.</p> <p>Restoration measures on 260ha of State owned lands have been completed on three raised bog special areas of conservation with restoration works due to commence on a fourth protected raised bog site in early 2020.</p>

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	DCHG, DAFM, Teagasc, EPA, Local Authorities, other public bodies who own/manage SACs/SPAs	In Progress	<p>The Prioritised Action Framework (PAF) for Ireland seeks to identify measures for priority action in the relevant operating programme period. The PAF is an all of Government document and is designed to inform the design and targeting of measures to meet the most pressing needs in Natura 2000 and in the wider countryside. Priorities for the coming Multiannual period 2021- 2027 have been reviewed – see 6.1.9. Measures are being implemented under this framework through NPWS farm plan schemes, EU LIFE and other funding mechanisms.</p> <p>Existing forestry environmental guidelines for afforestation and felling have been revised to strengthen protection. The revised documents are: Environmental Requirements for Afforestation (December 2016) and the Standards for Felling & Reforestation (October 2019). Closely related are the Land Types for Afforestation procedure (October 2017) and the Felling & Reforestation Policy (May 2017). The former limits the type of land eligible for afforestation, and the latter details specifications for different types of reforestation, to facilitate forest restructuring based on site sensitivity.</p>
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	DAFM, Marine Institute	In Progress	<p>Aquaculture licencing was subjected to a full article 6 Assessment process. Since 2011, Assessments (or screening exercises) have been carried out in 70+ Natura 2000 sites covering approx. 1000 aquaculture licence decisions. Where ecological harm could not be avoided, either directly or by mitigation measures, licencing was not advised. There is a protocol for how new fisheries for bivalves will be opened in Natura sites, including risk assessment, outtake limits and management plans. Project work is underway to restore native oyster beds in Galway Bay, where they are characteristic features.</p>
6.1.9	Review and update the Prioritised Action Framework for Natura 2000	DCHG	In Progress	<p>Draft PAF for the for the Multiannual Financial Framework period 2021 – 2027 has been sent to the relevant authorities for consultation.</p>
6.1.10	Continue to collect information on sites to be considered towards	DCHG	In Progress	<p>Information continues to be gathered on biological and geological sites for potential inclusion in the Natural Heritage Area network. To date, assessment has been limited to a small suite of sites recommended for Natural Heritage Area status under the woodland/scrub, peatlands, plants/fungi</p>

	the protection and enhancement of the Natural Heritage Area network			and earth sciences themes, as well as assessments of sites included in habitat and species baseline and monitoring surveys.
6.2.1	Increase connectivity of the protected areas network using appropriate buffer zones, corridors, stepping stones and/or flyways	DCHG, Local Authorities, BnM, eNGOs, DAFM	Limited Progress	The National Planning Framework 2040, published in 2018, outlines the strategic goals for building an integrated network of greenways, blueways and peatways as part of a nationally coordinated strategy.
6.2.2	Extend the Marine Protected Area network	DHPLG, DCHG, DCCAE	In Progress	Legislation is being prepared to provide the Minister for Housing, Planning and Local Government with the powers to designate different types of MPA in identified locations and to put measures in place to protect MPAs, including offences and penalties. DHPLG has established an expert advisory group to deliver a report to provide recommendations on the expansion of Ireland's MPA network. Ireland's marine SAC and SPA network is under review for sufficiency under the EU Habitats and Birds Directives.
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	DCHG	In Progress	The draft Hen Harrier Threat Response Plan is nearing completion and is currently being refined and updated as necessary in consultation with Departmental stakeholders. In November 2019, DCHG secured EU funding for a five year project focused on improving the conservation status of Corncrake in Ireland. As part of the Roseate tern LIFE programme, special conservation measures, including vegetation clearance and deployment of nest boxes were undertaken on Rockabill island. These measures have seen the population steadily increase from 180 pairs to the present level of over 1600 pairs; this makes it the largest Roseate Tern colony in Europe.
6.3.2	Set up a Curlew task force	DCHG, DAFM, BWI, relevant	Implemented	In September 2019, after almost two years of engagement, the Curlew Task Force, established by DCHG, published its recommendations. This document outlines the conservation actions required to protect and enhance the remaining breeding Curlew population in Ireland. Stakeholders now

		civil society stakeholders		need to work together to implement these actions. The Curlew Conservation Programme (CCP) ran for the third consecutive year, implementing conservation measures and working with local communities in core breeding areas. In 2019, the CCP recorded a record high number of breeding pairs and, perhaps most importantly, recorded a significant increase in Curlew breeding productivity. The CCP will operate again in 2020. A research project directly linked to the CCP concluded this year and its full report will be issued in early 2020. It is hoped this research will assist in the implementation of actions related to both the Curlew Task Force and the CCP.
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	IFI, Marine Institute, Forest Service (DAFM), Irish Water, OPW, ESB	In Progress	<p>The IFI long-term eel monitoring programme continues to assess the state of the eel population in Ireland following the national management plan implemented in 2009. The European eel is still listed as Critically Endangered by the IUCN Red List (IUCN 2014). The latest advice from ICES is that all anthropogenic impacts that ‘decrease production and escapement of silver eels should be reduced to, or kept as close as possible to, zero in 2020’. In late 2018 the DCCAE announced the Eel Fisherpersons Support Scheme which was administered by Inland Fisheries Ireland during 2019. The EU carried out a public consultation on the EU Eel Regulation (1100/2007) in 2019 where the need for a EU wide eel traceability scheme was again highlighted by IFI. Media reports on the extent of the illegal eel trade despite the CITES ban on trade of eel outside of the EU shows that this traceability scheme is essential for tracking the movement of eels around Europe.</p> <p>References: Jacoby, D. & Gollock, M. 2014. <i>Anguilla anguilla</i>. The IUCN Red List of Threatened Species 2014</p> <p>Atlantic salmon are widely distributed throughout Irish freshwaters, with 144 such systems designated as salmon rivers. Despite this, a continuing declining trend in many wild salmon stocks is evident both nationally and internationally in recent decades. In the most recent five-year period, only 34% of Irish salmon rivers are considered to have healthy salmon populations. This has been attributed to reduced survival at sea influenced by climatic factors, increased sea lice-induced mortality associated with salmon farming, and in-river factors such as alterations in physical habitat, water quality issues, environmental factors, predation and over-fishing. A range of management measures have been implemented to address the challenges facing Atlantic salmon. These include the introduction of river-specific conservation limits to sustainably manage individual fisheries and associated restrictions on fishing gear and effort as well as extensive habitat restoration actions supported by national funding programmes such as the Salmon Conservation</p>

			<p>Stamp fund. There has been increased focus on measures to improve fish passage in Irish rivers, notably through the State-funded IFI National Barriers Programme which has undertaken an extensive nationwide assessment of migration barriers in addition to related initiatives such as the EU-funded AMBER and EPA-funded RECONNECT projects. In 2018 the Irish Government established a steering group to examine the barriers to fish passage in the lower River Shannon, where two substantial dams associated with the Shannon hydro-electric scheme are present since the late 1920s. The Shannon is the largest catchment in Ireland and traditionally held substantial stocks of wild salmon throughout its system. The steering group is considering the impact of barriers to fish migration at the dams and is tasked with making recommendations for improving fish passage in the environs. IFI have also issued guidance on the planning, design, construction and operation of small-scale hydro-electric schemes to better inform their sustainable development in relation to fish passage.</p> <p>Sea trout (<i>Salmo trutta</i>), a migratory form of trout, enters marine waters for some of its life cycle in order to feed and grow rapidly before returning to its natal river to spawn. To restore sea trout populations where they are in decline, as is being observed in several parts of Ireland due to both natural and anthropogenic pressures, requires fundamental information on stock status before developing and implementing any restorative management measures. To that end IFI produced a policy document in Q4 2018 to provide guidance for DCCAE on delivery of conservation and management priorities for sea trout. In 2019 Shephard et al published a paper on stock status assessment methodologies applicable to data-poor species like sea trout. Continuous monitoring of sea trout in the River Erriff, the National Salmonid Index catchment, continues to provide long-term stock trend data and marine survival rates. In 2019 a full climate change monitoring programme was initiated by IFI and the Erriff is one of the catchments where monitoring equipment has been installed. Characterising the marine phase of the sea trout life cycle improves understanding and identification of potential survival bottlenecks; to investigate the marine phase telemetry based studies are continuing in several sea trout systems (Erriff/Killary, Currane/Ballinaskelligs and Castletown/NE coast).</p> <p>The shads and migratory lamprey have the capacity to penetrate long distances, up to hundreds of kilometres, into freshwater catchments on their spawning migrations. The Irish experience, as monitored by IFI in designated SACs rivers under the Habitats Directive, is that these migrations are seriously impeded by man-made structures, principally weirs. Many of these weirs are situated in</p>
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				<p>the lower reaches of the SAC rivers, severely curtailing access to suitable habitat for the species in upstream areas. The problems are compounded by the presence of small hydro schemes on some of these weirs, creating difficulties both for up-migrating adult salmon, lamprey and shad and down-migrating juvenile life stages. Many of these weirs have fish passage solutions (fish passes) installed but these were designed, essentially, for upstream migration of adult salmon.</p> <p>Recent published research by IFI has identified that a large number of these fish passage solutions do not necessarily facilitate the upstream passage of adult salmon and are even less accommodating of adult sea- and river lamprey. Requirements to address the aspiration of species status restoration does include improved passage for migratory fish. The conflict in state policies – between production of ‘green energy’ and species conservation – is not unique to Ireland and has been identified in scientific literature as an issue. In addition, the process of passage enhancement has been shown to be extremely slow in Ireland</p>
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	DCHG, GET, IGPCT, BWI, DAFM	In Progress	<p>The Hen Harrier Threat Response Plan is in progress but is not finalised.</p> <p>Implementation of the Natterjack Toad Species Action Plan is ongoing through farm pond schemes and captive rearing programmes.</p>
6.3.5	Identify and subsequently fill critical gaps in ex-situ conservation programmes for wild species, in line with best practice	DAFM, DCHG, Fota Wildlife Park, Tayto Wildlife Park, National Botanic Gardens, Dublin Zoo, BWI	In Progress	<p>The natterjack toad was identified as a threatened species in Ireland’s Red List No. 5. <i>Ex-situ</i> conservation efforts are now underway involving captive rearing in both Fota Wildlife Park and Dingle Aquarium.</p> <p>Material is held in seed banks or as living collections at the National Botanic Gardens, Trinity College Dublin Botanic Gardens and the DAFM National Genebank, Backweston for many of Ireland’s threatened vascular plant species identified in Ireland’s Red List No. 10. Recent efforts have focussed on the collection for <i>ex situ</i> conservation of seed and other living material of species</p>

			<p>not or poorly represented in these collections, such as <i>Achillea maritima</i>, <i>Arenaria norvegica</i>, <i>Hieracium scullyi</i>, <i>H. sparsifrons</i>, <i>Sorbus scannelliana</i> and <i>Vicia orobus</i>, amongst others.</p> <p>Seed has been collected under licence and grown in the National Botanic Gardens for a small number of Flora Protection Order species. The NBG is developing a programme for <i>ex situ</i> conservation of these plants, the aims of which are to characterise and grow threatened plant species and there are plans to complete a collection of critically endangered plants as ex-situ collections in 2020.</p>
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OBJECTIVE 7 STRENGTHEN INTERNATIONAL GOVERNANCE FOR BIODIVERSITY AND ECOSYSTEM SERVICES

No.	Action	Lead/key partners	Status	Interim Report Summary Update
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	DFAT	Limited Progress	Information not available at time of report
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	DCHG, DHPLG, DFAT, Academia and Research Organisations,	In Progress	Ireland has been represented internationally at CBD Conference of the Parties and the SBSTTA and SBI meetings, IPBES, CITES, CMS (EUROBATS), IPBES and OSPAR.

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	DCHG, NBDC	In Progress	Ireland has contributed data and information to the Global Biodiversity Information Facility (GBIF), the European Alien Species Information Network EASIN and EASIN NOTSYS, the IUCN's Global Register of Introduced and Invasive Species (GRIIS), the EEA's European Grassland Butterfly Index, the European Vegetation Archive and the Global Index of Vegetation-Plot Databases during the course of this plan.
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 wildlife crime	DCHG, DAERA	In Progress	Cross-border collaborative projects are ongoing, including Cooperation Across Borders for Biodiversity (CABB) (2017-2022), a major new cross-country initiative by Birdwatch Ireland (BWI). CABB is funded by EU INTERREG VA to improve the condition of upland SACs and SPAs. Collaborative Action for the Natura Network (CANN), another INTERREG project with Northern Ireland and Scotland, is working to save peatlands and other wetlands supporting threatened species such as curlew and hen harrier.
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	DCHG, DAERA, British/Irish Council, NBDC, CEDaR, eNGOs	In Progress	A concerted effort is made to coordinate Species and Habitat surveillance across the island. All Red Lists produced by DCHG are compiled on an all-island basis, as are two bat monitoring programmes – Daubenton's bat waterways survey and the Car Transect Survey. The Atlas of Mammals in Ireland was an all-island initiative and production; equally the ongoing European Mammal Atlas project receives coordinated input from NBDC and CEDaR. The All-island Marsh Fritillary Monitoring Scheme is run by the NBDC, in collaboration with DCHG and the Northern Ireland Environment Agency and Butterfly Conservation Northern Ireland.

	(BoCCI), All-Ireland Brent Research Group)			
7.3.3	Further cooperation on and co-ordination of All-Island Species Protection Plans and Red List assessments	DCHG, DAERA	Limited Progress	No progress in the timeframe of this review.
7.4.1	Adopt measures to significantly reduce negative impacts of trade on biodiversity and to enhance positive impacts	DCHG, DFAT, DAFM	In Progress	There has been a growing market for sustainably derived produce. MacDonald's sell 100% Rainforest Alliance certified coffee and 100% Marine Stewardship Council certified fish; all ALDI bananas are either Rainforest Alliance or Fairtrade Foundation-certified. Pat the Baker, Johnston Mooney & O'Brien, Brennan's, Dairygold, Taytos, Jacobs, Roma and all Aldi own-brand products all use sustainable palm oil.
7.4.2	Ensure CITES Regulations are effectively implemented and enforced	DCHG, Revenue's Custom Service	In Progress	Irish CITES authorities continue to work with colleagues across the EU to improve Union wide implementation of the EU Wildlife Trade Regulation and to lessen the impact of trade on vulnerable species such as elephants, rhino, tigers and dalberghia.
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	Forest Service, DAFM, DFAT	In Progress	The EU Timber Regulation prohibits EU importers and EU timber producers from placing illegally harvested timber and timber products on the EU market. EU importers are obliged to undertake due diligence in this regard. DAFM is the Competent Authority for its implementation in Ireland. FLEGT (Forest Law Enforcement, Governance and Trade) licences are issued by any timber-producing country that has ratified a Voluntary Partnership Agreement with the EU. The licences confirm that timber or timber products comply fully with the relevant laws of the country of export. FLEGT-licensed timber and timber products are considered to comply with the requirements of the EU Timber Regulation, EU importers therefore do not need to undertake further due diligence on FLEGT-licensed timber.

7.4.4	Investigate potential measures to prevent, minimise and/or mitigate deforestation due to non-wood imports	DAFM, Bord Bia, DFAT, BnM	In Progress	DAFM have had involvement in recent EU Council Conclusions calling for this issue to be addressed urgently.
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5. NEXT STEPS

The Biodiversity Forum was set up to advise the Minister on the content and implementation of the National Biodiversity Action Plan. Its members were drawn from landowner representatives, eNGOs, academia and other relevant stakeholders (Section 8). This review will be sent the Forum to assist them in their role. The Review will be discussed at a High Level Meeting of Senior Governmental Officials to escalate progress where needed.

The policy arena has shifted since the publication of the NBAP with the publication of Project Ireland 2040, the Climate Action Plan and the National Implementation Plan for the Sustainable Development Goals. At the global level, parties to the UN CBD are negotiating a post-2020 Global Biodiversity Framework to be adopted at the 15th Conference of the Parties in October 2020. The EU are also developing a Biodiversity Strategy to 2030, which will include commitments to address the main causes of Biodiversity loss, contribute to efforts to mitigate and adapt to climate change and to achieve the Sustainable Development Goals. Following the adoption of the Global Biodiversity Framework the European Commission will put forward concrete implementation actions by 2021.

DCHG will be involved in Irish, EU and Global negotiations. The outcomes will be used to shape Ireland's 4th Biodiversity Plan which will be launched in 2022. Stakeholder engagement in developing the Plan is anticipated to start in 2021.

Clearly, much more needs to be done to reverse the trends in biodiversity loss. Ireland needs to avail of all relevant national and EU funding streams critical for biodiversity conservation and ensure that we are maximising the full range of potential financing mechanisms (e.g. payments for ecosystem services, biodiversity offsets, restoration of carbon sinks, fiscal transfers, etc.), together with improved targeting of existing measures for biodiversity. Accessing funds through the next CAP and EMFF will be critical to biodiversity conservation. A transformational approach is also required to ensure our consumption patterns are truly sustainable and to safeguard biodiversity on this island.

Areas within the current Plan that need more emphasis include:

- A programme to build on the success of the Burren Programme in other areas of the country, particularly for semi-natural grasslands
- New farming models to aid the diversification of agriculture and appropriate reduction in intensification in some areas
- The development of a National Green Infrastructure Strategy to include agricultural landscapes
- Management Plans for protected habitats and species
- Restoration plans for species in severe decline
- Restructuring of legacy non-productive, badly-sited conifer plantations; especially on peatlands
- Further expansion of native woodland to ensure functioning natural woodland across the landscape
- Acceleration of the establishment of Marine Protected Areas
- The establishment of new frameworks for private sector investment and innovation
- The integration of natural capital accounts into decision making

- Invertebrate monitoring
- An Invasive Species Strategy
- Additional expertise across government to facilitate collaboration.

6. GLOSSARY OF ABBREVIATIONS

AA	Appropriate Assessment
AFBINI	Agri-Food and Biosciences Institute Northern Ireland
ASSAP	Agricultural Sustainability Support & Advisory Programme
BnM	Bord na Móna
CAP	Common Agriculture Policy of the European Union
CBD	Convention on Biological Diversity
CFP	Common Fisheries Policy of the European Union
CIEMM	Chartered Institute of Ecology and Environmental Management
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
COFORD	The National Council for Forest Research and Development
COP	Conference of the Parties to multilateral Conventions, such as the CBD
CSO	Central Statistics Office
DAHG	Department of Arts, Heritage and the Gaeltacht
DAFM	Department of Agriculture, Food and the Marine
DCENR	Department of Communications, Energy and Natural Resources
DECLG	Department of the Environment, Community and Local Government
DES	Department of Education and Skills
DFAT	Department of Foreign Affairs and Trade
DJEI	Department of Jobs, Enterprise and Innovation
DPER	Department of Public Expenditure and Reform
DTTS	Department of Transport, Tourism and Sport
EBSA	Ecologically or Biologically Significant Marine Areas
EPA	Environmental Protection Agency
EIA	Environmental Impact Assessment
EIONET	European Environmental Information and Observation Network
ELD	Environmental Liability Directive of the European Union
EUTR	European Union Timber Regulation
FAO	Food and Agriculture Organisation of the United Nations
FETAC	Further Education and Training Awards Council
GIS	Geographic Information System
GFP	Good Farming Practice
ICES	International Council for the Exploration of the Seas
IFI	Inland Fisheries Ireland
INPBR	Irish National Platform for Biodiversity Research
ISDI	Irish Spatial Data Infrastructure
LA	Local Authorities

LAWPRO	Local Authority Water Programme
LBAP	Local Biodiversity Action Plans
MI	The Marine Institute
MSFD	Marine Strategy Framework Directive
NBAP	National Biodiversity Action Plan
NBDC	National Biodiversity Data Centre
NDP	National Development Plan
NESC	National Economic and Social Council
NIEA	Northern Ireland Environment Agency
NGO	Non-Governmental Organisation
NHAs	National Heritage Areas
NRA	National Roads Authority
NPWS	National Parks and Wildlife Service of DAHG
NUIG	National University of Ireland, Galway
NWWRAC	North Western Waters Regional Advisory Council
OSPAR	Convention for the Protection of the Marine Environment of the Northeast Atlantic
OPW	Office of Public Works
OSI	Ordnance Survey Ireland
RBM	River Basin Management
RDP	Rural Development Plan
REPS	Rural Environmental Protection Scheme
SACs	Special Areas of Conservation for habitats and species
SAPs	Species Action Plans
SEA	Strategic Environmental Assessment
SFM	Sustainable Forest Management
SFPA	Sea-Fisheries Protection Authority
SIR	Site Inspection Reporting
SPAs	Special Protected Areas for Birds
UCC	University College Cork
UCD	University College Dublin
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
TCD	Trinity College Dublin
TII	Transport Infrastructure Ireland
WIT	Waterford Institute of Technology
WFD	Water Framework Directive of the European Union

7. MEMBERS OF THE BIODIVERSITY WORKING GROUP 2017-2021

Name	Department/Body
Ciaran O’Keeffe	Dept. of Culture, Heritage and the Gaeltacht
Claire Cooper	Dept. of Culture, Heritage and the Gaeltacht
Alan Moore	Dept. of Culture, Heritage and the Gaeltacht
Deirdre Lynn	Dept. of Arts, Heritage and the Gaeltacht
Niall Ryan	Dept. of Agriculture, Food and the Marine
Jack Nolan	Dept. of Agriculture, Food and the Marine
Katherine Duff	Dept. of Agriculture, Food and the Marine
Tadhg O’Mahony	Environmental Protection Agency
Colin Byrne	Dept. of Housing, Planning and Local Government
David Flynn	Dept. of Housing, Planning and Local Government
Cathal Gallagher	Inland Fisheries Ireland
Colin Kelleher	National Botanic Gardens
Liam Lysaght	National Biodiversity Data Centre
Tony Brew	Office of Public Works
Margaret Gormley	Office of Public Works
Brian Deegan	Irish Water
Maurice Clarke	Marine Institute
Anne Ribault-O’Reilly	Dept. of Business, Enterprise and Innovation
Catherine Keena	Teagasc
Laura Behan	Dept. of Transport, Tourism and Sport
John Paul (JP) Mulherrin	Dept. of Rural and Community Development
Olga Grant	Dept. of Communications, Climate Action & Environment
Susan Fleming	Dept. of Communications, Climate Action & Environment
Paul Greene	An Garda Síochána
Brian O’Malley	Dept. of Public Expenditure and Reform
Harry Harris	Dept. of Health
Paul Greene	An Garda Síochána
Yvonne Buckley	Trinity College Dublin
Lorcan Scott	Heritage Council
Craig Bullock	University College Dublin
Céline Reilly	LGMA – Dublin City Council
Denis McGowan	Dept. of Rural and Community Development

8. BIODIVERSITY FORUM

Name	Organisation
Yvonne Buckley (Chair)	TCD
Simon Berrow	Irish Whale & Dolphin Group
Séamus Boland	Irish Rural Link
Ken Bradley	DOE (NI)
Tasman Crowe	UCD
Padraic Fogarty	Environmental Pillar
Paul Giller	UCC
Paul Harris	Bol, Global Markets
Brendan Joyce	Irish Natura & Hill Farmers Association
Elaine McGoff	An Taisce
James Moran	GMIT
Jenny Neff	Chartered Institute of Ecology and Environmental Management
Aoife O'Donovan	IBEC
Oonagh Duggan	Birdwatch Ireland
Siobhán Ryan	Sligo County Council

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