

Evidence Gathering Questionnaire for the Fitness Check of the Nature Directives

QUESTIONNAIRE

A. General Information

Please answer ALL questions in this table

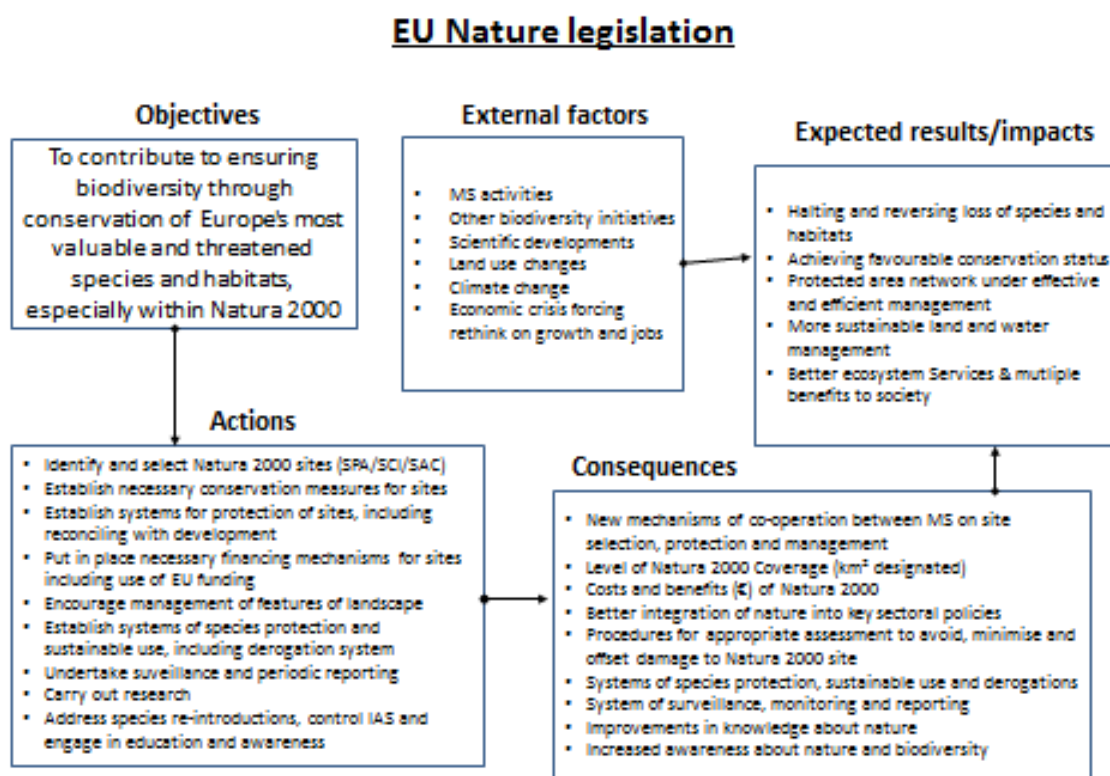
	Answer
Organisation:	National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht
Date:	March 2015
Country (and, if applicable, region) represented:	Ireland
Organisation(s) represented:	As above
Name of contact for enquires (including follow-up interview if required):	Ciaran O'Keeffe
Contact email address:	Ciaran.okeeffe@ahg.gov.ie
Contact telephone number:	+35318883295
Languages spoken fluently by contact person:	English
Language for the interview if it is not possible to conduct it in English	n/a
Type of organisations you represent: EU authority or agency / Member State authority or agency / business or industry / educational or scientific institute / nature conservation charity / recreation / individual expert / other (please specify).	Member State authority or agency (Ministry)
Sector represented: environment / water / agriculture / forestry / fisheries / transport / energy / extractive industry / industry / housing and other buildings / recreation & tourism / science & education / other (please specify)	Ministry responsible for Nature Conservation
Additional comments:	

B. EVALUATION/ FITNESSCHECKquestions

Please answer all questions that are relevant to you and for which you can provide informed insights from direct experience and/or supporting evidence.

We would kindly ask that you keep your answers as succinct as possible. They should summarise in **no more than 2 pages** any evidence relevant to a given question. More complete/detailed information, if any, should be provided in the form of references and/or web links. Definitions, explanations and examples are provided under each question to assist you in answering them.

When answering the questions, please note that the Fitness Check intends to examine the performance of the Nature Directives in relation to their stated objectives, taking into account expected results, impacts and external factors. The figure below presents the intervention logic as included in the mandate. For ease of reference, a table presenting the objectives of the Directives, differentiating between different types of objectives (strategic, specific, operational), is included in Annex I to this document.



The questions are structured around the five evaluation criteria addressed in the mandate: effectiveness = S, efficiency = Y, coherence = C, relevance = R, and EU added value = AV.

Effectiveness

This section focuses on assessing the extent to which the objectives of the Birds Directive and Habitats Directive have been met, and any significant factors which may have contributed to or inhibited progress towards meeting those objectives. By 'objectives', we refer not only to the strategic objectives, but also to other specific or operational objectives required under other articles of both Directives (as set out in Annex I to this questionnaire).

'Factors contributing to or inhibiting progress' can relate to the Nature Directives themselves (e.g. the clarity of definitions) or be external factors such as lack of political will, resource limitations, lack of cooperation of other actors, lack of scientific knowledge, or other external factors (e.g. see those listed in the above intervention logic).

We are particularly keen to learn of evidence that is not included in the Member State implementation reports¹.

S.1.1 What progress have Member States made over time towards achieving the objectives set out in the Directives and related policy documents?

Please provide evidence on what progress has or is being made towards the achievement of the objectives set out in Annex I that are of relevance to you. Please address separately the objectives of the Birds Directive and the Habitats Directive, and specify which objective(s) you are referring to, with references to the corresponding Articles. If possible quantify the progress that is being made.

Note please that the hierarchy of objectives in the questionnaire is somewhat difficult to follow and answers here often refer to more than one layer of that hierarchy.

Answer: In summary, much has been achieved but much more remains to be done.

Both Nature Directives: Specific Objectives: Establish Natura 2000

Ireland has protected 429 candidate SACs, mostly between 1997 and 2005, with some more recent additions in the marine environment. A small number of additional SACs are likely to be proposed in the near future. The final formal designation of SACs is commencing, but will not change protection of habitats or species already in place.

Ireland has 154 Special Protection Areas (SPAs), and carried out a work programme of re-designation to ensure the required level of protection. The coherence of the SPA network has been reviewed.

See <http://www.npws.ie/protected-sites>

Further details on SPAs can be accessed at

<http://www.ahg.gov.ie/en/Heritage/ProgrammeofMeasuresbyIrelandtoensurecomplianceintheECJBirdsCase/>

The "Natura Barometer" shows Ireland ranked 21st of the EU 28 in terms of percentage of the land area covered by Natura 2000. Ireland's marine NATURA area appears to be 7th largest of those 23 EUMS with marine designations (note that the Natura Barometer is currently out of date in regard to marine Natura areas). Further work is ongoing in regard to marine areas used by birds.

Both Nature Directives: Specific and Operational Objectives: Legal Measures

In 2011, the European Communities (Birds and Natural Habitats) Regulations were made law (see <http://www.irishstatutebook.ie/2011/en/si/0477.html>), which include a duty on all public authorities (e.g. Government Departments, state agencies etc) not to cause deterioration to Natura 2000 sites and to

¹Habitats Directive Reports: http://bd.eionet.europa.eu/activities/Reporting/Article_17/Reports_2013/
Birds Directive Reports: http://bd.eionet.europa.eu/activities/Reporting/Article_12/Reports_2013/

exercise their functions in compliance with the Directives. This mainstreaming of responsibility across Government is considered to be critical in ensuring that the objectives of the Directives are met, and to influencing decision-making to ensure it is consistent with these obligations.

Much of the protection of individual species especially birds is provided through the Wildlife Acts and supporting Regulations.

Measure/Operation Objective Articles 4(4) Birds Directive and 6 (3/4) Habitats Directive – appropriate assessments and compensation:

In 2011, subsequent to a finding that Ireland had failed to adequately transpose the requirements of the Directives, Ireland integrated the requirements of these Directive Articles into the Planning and Development Acts (see <http://www.envron.ie/en/Legislation/DevelopmentandHousing/Planning/FileDownload,25759,en.pdf>) and into the Birds and Natural Habitats Regulations. These instruments ensure that there are legal requirements in national legislation to require all public authorities to undertake a screening for an appropriate assessment and an appropriate assessment as may be required. As with Article 6 (2), the integration of appropriate assessment findings into decision-making is taking time to bed-down, as public authorities become more familiar with the discretion-limiting nature of the assessments and to increase their capacity and expertise to undertake them. Appropriate assessments can be seen to be influencing the decisions that are made, though not yet as extensively as is always warranted (see below for S.1.2. for more detail).

The European Union (Birds and Natural Habitats) (Seafisheries) Regulations 2013 provide for the responsibilities of the Minister for Agriculture, Food and the Marine in relation to sea-fisheries in Natura 2000 sites. <http://www.irishstatutebook.ie/pdf/2013/en.si.2013.0290.pdf>

Habitats Directive: Strategic Objectives: Art.17 assessment of Habitats and Species

The ultimate objective of the Directives is to achieve favourable conservation status for habitats and species. In general, monitoring to date shows species to be in a better status than habitats.

In the 2013 report under Art. 17 of the Habitats Directive, 9% of the 58 listed habitats are assessed as “favourable”, 50% as “inadequate” and 41% as “bad”. Since 2007 nine (16%) habitats demonstrate a genuine improving trend, 18 (31%) habitats are considered to be declining, no change is reported for 28 (48%) habitats and an unknown trend reported for 3 (5%) habitats. Many of the coastal habitats and lakes are assessed as “inadequate”, with ongoing declines. “Inadequate” but improving trends are noted for some marine habitats. Several of the peatland and grassland habitats remain in “bad” status with ongoing declines; however improvements are noted in some woodland habitats. Fens are assigned a “bad” but unknown trend due to the lack of national data to support the assessments.

There is no evidence that there will be any major decline in pressures over the next 12 years. Some potential improvements however have been noted for the following:

- A decline in invasive infestation of woodlands due to improved forestry management.
- Management of aquaculture related pressures impacting Estuaries and Mudflats
- A reduction in pollution from household waste, sewage systems and pollution arising from agricultural or forestry related activities. These improvements are likely to be observed in certain lake habitats.

There is some evidence that climate change is negatively impacting coastal habitats. Predictions indicate that degraded upland habitats, in particular, will become less resilient to the impacts of climate change in the immediate future. These predictions relate mainly to drier summers and higher levels of more intense rainfall which are likely to result in bog bursts and landslides which may indirectly impact other habitats e.g. lakes.

Ecologically unsuitable grazing regimes were one of the highest impacting pressures reported. The grazing pressures noted were both intensive and non-intensive grazing. Non-intensive grazing is assigned as a pressure where a habitat has not recovered from the impacts of overgrazing and even a small amount of grazing is still considered to negatively impact the habitat. Abandonment and succession were also considered to negatively impact habitat quality.

The most prevalent pollution sources are from agricultural or forestry related activities and household sewage systems.

Mechanical peat extraction is considered a High intensity pressure for Blanket bog and also indirectly impacts lake and river habitats. Peatlands were also significantly impacted by drainage.

Species

For the 61 resident species (including 3 species groups) 52% are assessed as “favourable”, 20% as “inadequate”, 12% as “bad” and 16% as “unknown” (Figure 6). There are less unknowns than reported in 2007, due to improved knowledge of cetaceans; in those cases, the “unknown” ratings were elevated to a “favourable” status in 2013. Therefore with further improved knowledge of cetaceans it is likely that the proportion of species in “favourable” status will increase.

Since 2007 4 (6%) species demonstrate a genuine improving trend, 6 (10%) species are considered to be declining, with no genuine change reported for 50 species (82%).

Many species remain in “favourable” status. Population increases and Range expansion have been observed for Otter and Pine Marten respectively. Improvements in habitat extent for Natterjack toad have been achieved by conservation action. However, on-going declines are reported for all Vertigo and Pearl mussel species and Marsh fritillary.

Pollution is considered the biggest pressure and threat impacting the conservation status of species. Human intrusion and disturbances was reported frequently but never at a high intensity. Agricultural practices have a high impact on species that occur within agricultural systems, e.g. Vertigo species and Marsh Fritillary.

There is no evidence that there will be any major decline in the incidence of pressures over the next 12 years, however the impact of aquaculture related pressures on Maërl species should reduce. Invasive species are considered likely to increase as a threat to a number of species. Bat species are predicted to be increasingly impacted by wind energy and forestry management (e.g. forestry clearance).

NPWS (2013). The Status of Protected EU Habitats and Species in Ireland. Overview Volume Unpublished Report, National Parks & Wildlife Services. Department of Arts, Heritage and the Gaeltach Dublin, Ireland. Editor: Deirdre Lynn

<http://www.npws.ie/sites/default/files/publications/pdf/Art17-Vol1-web.pdf>

Birds Directive: Strategic Objectives: Art.12 report

The 2014 Report covers 196 bird species, including species which live in Ireland all year round, and others which migrate here for summer or winter. It provides a picture of both short-term and long term trends for some species, and similarly a view of the breeding range trends in some species. However there is an absence of long-term data for some species.

The report was required to provide information on trends rather than a conclusive assessment of status as is the case in the Art 17 report.

In summary, 58% of species populations were stable or increasing in the short term, while 27% were decreasing. However looking at long term data (where available) 36% were stable or increasing, while 28% were decreasing.

Habitats Directive: Specific Objectives Article 6.1 and 6.2

Birds Directive : Specific Objectives Article 4.4

Very substantial work has gone into protecting habitats through various means but much work remains to be done.

Generic Conservation Objectives were prepared some years ago for all sites, and work is underway currently on detailed site-specific conservation objectives.

There is in place a coherent system of appropriate assessment of plans and projects in all Natura sites.

Conservation actions have mostly been provided through agri-environment schemes operated mainly by the Department of Agriculture but some by the National Parks and Wildlife Service.

In recent years, the most high profile work has been towards protecting the best remaining examples

of raised bogs in Ireland. In May 2010, the Government prohibited turf cutting on 31 raised bog SACs, and decided that turf-cutting would cease on a further 24 raised bog SACs at the end of 2011.

The Government has put in place significant resources and effort to resolve the issue of protecting Ireland's raised bog Special Areas of Conservation, including:

- the establishment of a substantial compensation scheme (over €11.7m from the Exchequer spent to date) which the vast majority of active cutters have availed of, This scheme provides for financial compensation or the relocation of turf cutters to non-designated bogs, where feasible.
- the establishment of a Peatlands Council to facilitate the views of all stakeholders,
- a comprehensive policy framework including a draft National Peatlands Strategy and a draft National Raised Bog SAC Management Plan. Once finalised these will give certainty to all stakeholders about the future of peatlands and how SAC raised bogs are to be managed.

The draft National Raised Bog Special Areas of Conservation (SAC) Management Plan provides for the future restoration and management of 53 raised bog SACs and sets out the approach to how each of the raised bog SACs is to be conserved and restored and how the needs of turf-cutters are to be addressed.

The draft National Peatlands Strategy sets out a cross-governmental approach to managing issues that relate to peatlands, including compliance with EU environmental law, climate change, forestry, flood control, energy, nature conservation, planning, and agriculture. Peatlands cover approx. 20% of the State's land area and their use has implications across a wide spectrum of public policy.

This work is continuing apace. See also section S.3.

Article 10

There has been only modest progress in this area of work. There is provision in the Birds and Habitats Regulations 2011 for the use of national designations under the Wildlife Acts (Natural Heritage Areas, Nature Reserves, Refuges for Flora and Fauna) to augment and support the Natura 2000 Network. Raised bogs have been designated as Natural Heritage Areas under the Wildlife Acts.

The Minister has the power under these Regulations to control potentially damaging activities within and outside Natura 2000 sites.

Local Authority Heritage and Biodiversity Plans are a very important tool in providing connectivity through the maintenance of regionally and locally important wildlife sites and ecological corridors linking them. See for example <http://www.fingalbiodiversity.ie/projects.html>

The National Roads Authority updated its Guidelines for Assessment of Ecological Impacts of National Roads Schemes in 2009. <http://www.nra.ie/RepositoryforPublicationsInfo/file,16634,en.pdf>

Considerable effort has been invested in the regulation of grazing in 440,000ha of commonage, of which circa 40% is outside the Natura 2000 network but contributes to connectivity between sites.

There have been efforts in recent years to ensure that the importance High Nature Value farmland is appreciated and supported by appropriate policy instruments. The Heritage Council in particular has championed the identification and description of what constitutes HNV farmland and how it might be supported under CAP reform. These landscapes and undesignated areas of biodiversity provide an important repository for biodiversity in the wider countryside and will ensure connectivity between designated sites.

BirdWatch Ireland has developed the following group species action plans which, though aimed at bird conservation, would have benefits for Habitats Directive habitats and species: Marine and seacliff birds; shore and lagoon birds; dune and Machair birds; lake, fen and turlough birds; riparian birds; lowland farmland birds; urban and suburban birds; woodland and scrub birds; upland birds; raised bog birds.

<http://www.birdwatchireland.ie/Ourwork/SpeciesHabitatConservationinIreland/SpeciesActionPlans/tab>

d/946/Default.aspx

The Native Woodland Scheme, a nationally funded support measure operated by the Forest Service of DAFM, was launched in 2001 and is aimed at protecting, enhancing and expanding Ireland's native woodland resource. Native Woodland Conservation supports the restoration of existing native woodlands and the conversion of conifer forests to native woodland on sensitive sites. This element is especially relevant to woodlands that are designated as Special Areas of Conservation (SACs) or Natural Heritage Areas (NHAs). Native Woodland Establishment supports the creation of new native woodlands on greenfield sites, with a particular focus on sites beside existing designated woodlands (e.g. SACs) and sites within sensitive water catchments.

(<http://www.agriculture.gov.ie/forests-service/grant-and-premium-schemes/>)

Ireland's National Sustainable Development Plan was published in 2013.

This Plan includes the following targets which are relevant to Article 10:

- Development of an Integrated Approach to Green Infrastructure
- Effectively Communicating the Economic Rationale for Conservation of Natural Resources
- Development of Indicators and Accounting Systems (satellite accounts) for Natural Capital
- Development of a National Landscape Strategy

See: <http://www.environ.ie/en/Publications/Environment/Miscellaneous/FileDownload,30452,en.pdf>

The LIFE instrument is an important priming tool for research that can inform the roll out of measures and prescriptions both inside and outside the Natura 2000 network. The LIFE projects that commenced or concluded in the current reporting period are listed below under question Y.1.

Habitats Directive: Operational Objectives

Article 11

The main focus of biodiversity monitoring in Ireland has been to develop and implement national programmes to assess the conservation status of habitats and species listed in the Directives. There has been substantial improvement in knowledge since the late 1990s.

In cases where the extent of a Habitats Directive-listed habitat or species is not well known, national surveys are undertaken to gain an understanding of the distribution and/or ecology of the species or habitat in question. When the full range of variation is realised, indicators of condition are derived and targets are set to assess conservation status. These surveys are considered baseline monitoring surveys. In the case where the drivers which influence conservation status are poorly understood, more detailed research is undertaken. The data derived from these research programmes are also used as a monitoring baseline.

For many of the programmes, monitoring methodologies are designed to facilitate reporting on the attributes required to assess conservation status following guidelines agreed at EU level, i.e. indicators are derived to assess area, structure & functions and future prospects; population and habitat for the species. Representative samples are selected across the natural range to cover areas/populations both inside and outside the Natura network.

Data from other sectors/agencies that may inform the conservation status of habitats or species are also collated and integrated into monitoring assessments where appropriate, e.g. forestry and agriculture data. Some datasets are used as a proxy for status e.g. incidental species records; biodiversity and water quality data collected as part of the Water Framework Directive Rivers and Lakes programmes; Local Authority habitat surveys. Further work is required to make more effective use of these data sets and to streamline relevant monitoring programmes across all Directives.

Information on the major activities that impact the listed habitats and species within the Natura network is collected by Conservation Rangers, through a Site Inspection Reporting surveillance program. Summary reports on these activities are collated every 3 years. This programme uses the Natura Standard Data Form and Article 17 standardised activity codes.

Responses to management measures (e.g. invasive species clearance, restoration, agri-environmental schemes) are monitored at a local or regional level and the data are incorporated into monitoring assessment results.

The frequency of monitoring will depend on the ecology of the species or habitat in question, with

long-lived or less vulnerable species and habitats requiring less frequent monitoring.

The programmes often cover several habitats or species. Most of the reports arising from the monitoring programmes are published via the publications link on the npws.ie website.

Recent progress has been made in the marine environment with the launch of cetacean surveillance programmes and the development of marine habitat monitoring protocols.

There are still gaps in the programme, notably some lake and fen habitats.

Further information on the various programmes is synthesised as part of the audit/notes report accompanying each species and habitat conservation status assessment for the 2006-2012. These reports are in 2 volumes and can be accessed at <http://www.npws.ie/publications/search?title=article+17>.

Research: Article 18

A considerable amount of research has been carried out relevant to this article of the Directive. See appendix 1 for examples.

S.1.2- Is this progress in line with initial expectations?

'Initial expectations' refer to the expectations, positive or negative, held by different stakeholders at the time the legislation transposing the Directives came into force in your country. For example, government reports and plans might provide evidence of intended timetables for the identification and designation of Natura 2000 sites. We are seeking to understand the extent to which progress made to date has met, exceeded, or fallen short of such expectations. If possible, in your answer please address separately each of the objectives referred to in question S1.1 for which you have provided evidence.

Answer: With the benefit of hindsight, it is evident that the initial analysis of the Directives did not foresee the full extent of the obligations that would arise from the Directives. This appears to be due to a combination of lack of understanding of the full scope of the Directives, and the evolution of case-law through the European Court of Justice (e.g. Waddenzee; Sweetman v. An Bord Pleanála, Case C-258/11, CJEU judgment 11 April 2013). It was also not expected that the Directive would be applied to the entire marine area of Member States until a 2003 communication from the European Commission on foot of the UK High Court Ruling in 1999 that. With the second largest marine area in the EU, there were very substantial consequences of this “change” for Ireland.

In general, progress has taken longer than anticipated. For example, it would have been that the entire process of creating the Natura 2000 Network be completed before now. Issues around priorities and resources, the required appeal systems etc. has resulted in delays.

S.1.3 - When will the main objectives be fully attained?

On the basis of current expectations and trends, please provide evidence that indicates the likely year or range of years that the main objectives will be met. By 'main objectives' we mean the strategic objectives of the Birds Directive (as set out in its Article 2) and the Habitats Directives (in its Article 2), as well as the specific objectives set out in Annex I to this document.

Answer:

The completion of the designation process will probably take 2 years, although this is largely an administrative process; legal protection is now very substantially in place.

The attainment of favourable conservation status, as defined, will take much longer and it is not

possible to predict with confidence when that might be achieved. Some key points are:

- The habitats and species had to be considered in poor status across Europe to warrant inclusion in the Directive and only some “early wins” are feasible.
- The assessments include all of the range of the habitats and species in the state, and include many areas which have no statutory protection.
- The strict guidelines for assessment set high thresholds and it is difficult for a habitat or species to achieve a “favourable” rating across the entire national territory while genuinely allowing for local communities’ economic, social and cultural requirements.
- EU level Agriculture, forestry and fisheries policies are critical and may easily override the efforts of national conservation authorities.

Notwithstanding the above, it should be recognised that in some cases, the baseline is far below favourable, and many years will be needed for improvements to be seen. For example, the clearance of woodland from the Irish landscape over centuries has resulted in there being only small relict areas of fragmented woodland habitat. The favourable reference areas assigned to Old Oak Woodlands and Alluvial Woodland to ensure functioning connected areas of habitat are very ambitious and may take hundreds of years to realise.

S.2 – What is the contribution of the Directives towards ensuring biodiversity? In particular to what extent are they contributing to achieving the EU Biodiversity Strategy* Objectives and Targets?

By 'contribution towards ensuring biodiversity', we are referring not only to the conservation of the species and habitats specifically addressed by the Directives, but also to biodiversity more broadly defined: i.e. other species and habitats not targeted by the Directives; ecosystems (terrestrial and marine); and genetic diversity, both within and beyond the Natura 2000 network – in line with the EU's 2050 vision and 2020 headline target and the Targets of the EU's Biodiversity Strategy to 2020.

** For an overview of the EU biodiversity Strategy see:*

<http://ec.europa.eu/environment/nature/info/pubs/docs/factsheets/Biod%20Strategy%20FS.pdf>

Answer: The conservation vision and framework of the Directives have established a level of ambition for the protection of relevant habitats and species that would probably not have been delivered exclusively through national legislation.

The Directives have been particularly useful in protecting habitats listed in the Habitats Directive, with knock-on benefits to a wide range of biodiversity not specifically listed in the Directive. This is of course mainly in the Natura 2000 network. Species listed in Annex IV benefit across their range, although they were mostly protected under Irish law (see <http://www.irishstatutebook.ie/1976/en/act/pub/0039/>) but benefits accrued also in the wider countryside for bird species in particular.

The increasing attention to biodiversity issues in development control and forward planning (whether planning, forestry, rural development, agriculture, etc.) because of Article 6 (3) requirements is helping to integrate species and habitat protection into land-use and marine policies (Action 1) and is increasing awareness amongst key stakeholders at the national level (Action 3). The challenge of course is in ensuring that such awareness is not persistently in a negative context from the stakeholder perspective and much remains to be accomplished in that regard.

S.3 – Which main factors (e.g. implementation by Member States, action by stakeholders) have contributed to or stood in the way of achieving the Directive's objectives?

Please summarise evidence of the main factors that have supported or constrained progress towards achieving the objectives of the Nature Directives. As in previous questions, by 'objectives' we mean not only the strategic objectives set out in Articles 2 of both Directives, but also specific and operational objectives, as set out in Annex I to this document. Relevant factors might include, for example, resource limitations, lack of cooperation of other actors, lack of scientific knowledge, or other external factors (e.g. those listed in the above intervention logic).

Answer: Contributions to achievement

Successive Irish Governments have had a clear policy of implementing EU Environmental Directives (see for example

http://www.taoiseach.ie/eng/Publications/Publications_Archive/Publications_2007/An_Agreed_Programme_for_Government_-_June_2007.html).

Government funding has been essential, even times of economic difficulty (see below).

EU funding, mainly via RDP but other sources also, has been crucial in achieving a level of acceptance of designations.

Most farmer/landowner and other stakeholder representatives have been very willing to engage in discussions and negotiations on environmental protection. There is a slowly improving perception of farmers providing land stewardship benefitting the environment.

There is a small but vocal environmental NGO community in Ireland, and some have substantial scientific and ecological skill bases.

Impediments to achievement

There is a fundamental problem with the core objective in regard to achieving favourable conservation status (FCS) for habitats, which is that that would require protection of all Annex 1 habitats wherever they occur. Such a blanket approach to designation is not required under the Directive, and politically would not be achievable. However the current definitions relating to FCS in the reporting framework do not make allowance for this conundrum.

Resources: In a small economy, ambitions are constrained by competing resource needs and this was exacerbated by the economic downturn from 2008. This affects both staffing and funding of core Government Departments, local authorities and other agencies, and impacts their ability to achieve maximum effectiveness in delivery.

While Infringement cases by the European Commission are normally well-founded, they can have the effect that the limited resources available become focused on such issues and this can affect progress on other issues/habitats/species.

Costs of measures: Two thirds of Ireland is farmland and most of that is grass pasture. Ideally, nature conservation on land is supported by low-intensity farming. However EU food and agri policy generally favours the most intensive and productive farmers. As stated earlier, most Natura lands are in the western part of the country, where farm sizes are roughly one-third smaller than eastern farms

(<http://www.cso.ie/en/media/csoie/releasespublications/documents/agriculture/2004/tables1to15.pdf>), and farming conditions are generally less favourable. The economic reality is therefore that most farmers opt to intensify where possible, and there is a risk of abandonment especially of upland areas. In the past, farm subsidies based on number of animals farmed led to serious overgrazing; this has changed substantially. It is not feasible to recreate large tracts of low-intensity farming, and indeed there are major problems with lands that are lightly farmed being deemed ineligible for Pillar 1 payments. See, for example, <http://www.agriland.ie/farming-news/new-farm-organisation-takes-minister-to-task-on-inspections/>

Ireland has the second largest marine area in the EU at over 450,000 km² and extending over 200 nautical miles offshore. Taking survey platforms into this environment costs a basic €25,000 per day. For a standard three week cruise, it costs over €400,000 just to put a survey vessel into the survey location. Delivering the requirements of the directive that far offshore will be hugely onerous on relevant Member States given that much of the areas remain unexplored.

Policy at EU level on CAP and CFP are critical to many habitats and species and can, and do, override measures put in place at a farm or fishery level. There has been considerable improvement in recent times however in the development of agri-environment schemes to favour Natura 2000, aided by the PAF process instigated by the Commission. However there is intense competition for resources made available through EU and national funding.

Public perception: There is often a low level of awareness amongst the Irish public of the environmental problems the country faces (e.g. habitat degradation and deterioration, water quality etc).

The occurrence in Ireland of most of the terrestrial habitats and species listed in the Habitats Directive is concentrated in the western counties, which resulted in a relatively high level of designation in those areas and an inevitable perception among landowners and public representatives that obstacles were being put in place against development and prosperity. This has been counteracted to some extent by funding of agri-environment schemes.

Similarly there has been a significant challenge in achieving the protection of Natura raised bogs, which are concentrated in the midlands of Ireland, even though they represent only a fraction of the total number of bogs. The debate has been complex and fraught, with issues such as cultural heritage, fuel poverty and traditional rights being used against the arguments for nature conservation and other benefits of peatland protection, such as flood mitigation.

Other issues of relevance:

- Length of time taken to develop cooperative relationships with other public authorities
- Lack of baseline data and research on how development may or does affect Annex habitats and species and how it may be mitigated effectively

Notwithstanding the above, it should be recognised that in some cases, the baseline is far below favourable, and many years will be needed for improvements to be seen. For example, historic clearance of woodland from the Irish landscape has resulted in small areas of fragmented woodland habitat. The favourable reference areas assigned to Old Oak Woodlands and Alluvial Woodland to ensure functioning connected areas of habitat are very ambitious and may take hundreds of years to realise.

S.4 - Have the Directives led to any other significant changes both positive and negative?

This question aims to assess whether the implementation of the Nature Directives has brought about any significant environmental, social or economic effects or changes that were not intended or foreseen by the Directive at the time of their approval, and whether these changes were positive, negative or neutral in terms of their contribution towards meeting the objectives of the Directives. Examples of such effects or changes might include the development of a culture of social participation in nature-related decisions as evidenced by Committees for the development of management plans or higher cooperation of departments of different ministries, etc.

Answer:

One effect or change that was not foreseen is that responsibility for compliance with the Directives would be mainstreamed across all public authorities in Ireland, rather than residing solely with one government department. This is necessary for implementation, and is being achieved at different rates in different areas, both geographical and sectoral. However it has brought about improved awareness and engagement in many sectors.

The Directives have been a major driver for research and the expansion of knowledge concerning our natural capital. This will also have resulted in substantial added value in terms of capacity building, citizen engagement, etc and this remains an understated benefit of the directives.



Efficiency

Efficiency is essentially a comparison between inputs used in a certain activity and produced outputs. The central question asked here is whether the costs involved in the implementation of the EU nature legislation are reasonable and in proportion to the results achieved (benefits). Both 'costs' and 'benefits' can be monetary and/or non-monetary. A typology of the costs and benefits resulting from the implementation of the Directives is given in Annex II to this questionnaire. In your answers, please describe the nature, value and overall significance of the costs and benefits arising from the implementation of the Directive, supported by evidence.

Y.1 - What are their costs and benefits (monetary and non-monetary)?

Based on the explanation given above, please indicate, supported by evidence, what types of costs and benefits have resulted from the implementation of the Nature Directives. Please provide evidence, quantitative where possible, of costs and benefits, describe their nature (monetary/non-monetary) and value, and who is affected and to what extent. Please distinguish between the costs and benefits arising from the Directives themselves and those arising as a result of other factors. To facilitate analysis of the answers it would be useful if costs and benefits could be addressed separately.

Answer:

Costs: The **potential** costs of implementing the Natura network were estimated, as part of a Commission-driven “Financing Natura 2000” exercise, in 2010, at approximately €185 million p.a.

In practice, allocations are far smaller, and nationally-funded programmes had budgets reduced incrementally between 2008 and 2014. As an indicator of **direct costs**, the following figures may be useful:

1. Natura expenditure via the Department of Agriculture Food and the Marine under Ireland’s RDP 2007-13 was approximately €95,000,000, or c €13.6 m per annum. See:

<http://www.agriculture.gov.ie/ruralenvironment/ruraldevelopment/strategiesandprogrammes/>

2. An example of direct implementation costs can be seen in the expenditure of the Department of Arts, Heritage and the Gaeltacht in 2012, during the middle of the downturn period. It included the following items:

€5.43 m for agri-environment measures, over and above RDP Natura item 1 above

€3.9 m for science and species protection programmes, almost all focussed on scientific monitoring or related work, or species projects on Natura sites or nature Directive species. The requirements for baseline studies to underpin the Natura designations, and then for a 6-yearly monitoring cycle are substantial and not readily met from EU funds. The costs are especially sizeable in relation to Ireland’s marine territory, which are far greater than the land mass and much more expensive to survey see Y 3.)

€3.4 m for compensation and relocation of turf cutters in raised bogs

€1.2 m for scientific studies and management/restoration planning on raised bogs

€xxx for staff costs

Compliance costs:

Ireland does not gather data on the monetary costs involved or incurred by a “developer” in preparing Natura Impact Statements (reports to support a public authority’s appropriate assessment). These

costs are incurred by private developers, landowners, companies etc as well as Government bodies who need to undertake appropriate assessments of their own plans and projects.

In an exception to the “developer pays” norm, the Department of Agriculture Food and the Marine paid and is paying for collection of baseline data and appropriate or related assessments in relation to aquaculture and fisheries. This process has been time consuming and it is asserted by the aquaculture industry that the time required to consider licence applications has impacted the industry's development and expansion.

With regard to non-monetary estimates of administrative time inputs, delays, missed opportunities and other factors affecting costs, there is a perception amongst some stakeholders that the Directives cause excessive delays and costs when an appropriate assessment is required. This is particularly the case when a decision to grant consent (e.g. for planning permission) is appealed, or a judicial review is taken on the grounds that an inadequate appropriate assessment has been undertaken by the decision-maker. However, it is this Department's experience that if due regard is taken of the requirements of the Directives, existing guidance on appropriate assessment, the standards required and to good ecological practice in research, survey and analysis, then many of these delays could be avoided.

Benefits: In Ireland we are still in the early stages of consideration of approaches to ecosystem service valuation, but it is clear that the Directives have an associated benefit in protecting aspects of our natural capital and the services provided that are of benefit to Ireland and the global community (carbon stocks, flood regulation, climate regulation, tourism, angling etc).

There are examples, e.g. the Burren, where the Natura 2000 designations, while initially perceived as being a burden or a restriction, have unlocked EU and national funds that would otherwise not have been available. The partnership approach in the Burren, although resource dependent, has been shown to work very well and has been transformative in terms of attitudes and perceptions. The wider benefits to these communities, even outside of biodiversity, are significant and far outweigh the costs.

There has been little work to date that this Department is aware of in using Natura designations per se to add brand value, although the national tourism agency, Fáilte Ireland, has pointed to the value of natural assets e.g. <http://www.failteireland.ie/News-Features/News-Library/Making-the-Most-of-our-Natural-Assets.aspx>

This Department worked with the tourism industry to provide advice on the general benefits of biodiversity to tourism – see <http://www.noticenature.ie/tourism.html>

Compliance Benefits:

Appropriate assessments, when done well, are helping to ensure that more sustainable alternatives and project designs are being pursued, e.g. inappropriate/ineffective coastal defences that would not afford coastal protection but that have popular support despite this, are sometimes not being pursued, primarily because of the Directives. Appropriate assessments are also helping to reduce pressures on water quality and other ecosystem services.

EU Funding Benefits – the EU LIFE fund has provided significant funding for Natura related projects over many years, and continues to do so. Relevant projects include:

LIFE13 NAT/IE/000144 - Sustainable land use management for the conservation of the freshwater pearl mussel (KerryLIFE)

LIFE07 NAT/IRL/000342- Restoration of the Lower River Shannon SAC for sea lamprey, Atlantic salmon and European otter

LIFE09 NAT/IE/000222- Demonstrating Best Practise in Raised Bog Restoration in Ireland

LIFE09 NAT/IE/000220- Restoration of the Upper River Blackwater SAC for the freshwater pearl mussel, Atlantic salmon, European otter and kingfisher

LIFE07 NAT/IRL/00034- Control of aquatic invasive species and restoration of natural

communities in Ireland

Other LIFE projects that commenced prior to 2007 (but which ran beyond 2007) are also referenced below but are not included in the total figure for LIFE+ above,

LIFE04 NAT/IE/000125- BurrenLIFE: Farming for Conservation in the Burren

LIFE02 NAT/IRL/8490- Restoring Active Blanket Bog in Ireland

LIFE05 NAT/IRL/000182- Restoring Priority Woodland Habitats in Ireland

Y.2 - Are availability and access to funding a constraint or support?

This question focuses on the proportion of identified funding needsthat has been or is being met by EU and Member State funding, respectively,the extent to which the level of available fundingaffects the implementation of the Directives and enables the achievement of theirobjectives(as set out in Annex I to this questionnaire), and the extent to which initial funding allocations for nature under EU funding instruments were used as well as any factors which may have favoured or hindered access to and use of funds.In your answer please consider whether funding constraints affect costs or create administrative burdens(eg as a result of limitations on guidance or delays in decision making).

Answer:

As noted earlier, the estimated cost of funding Natura 2000 substantially exceeds the resources available at present. The economic downturn (2008-2013) greatly reduced the funding available from the national exchequer. As with all Government Departments, the Department of Arts, Heritage and the Gaeltacht has been impacted by the reduction in public expenditure and the public sector staff embargo.

Although there has been substantial investment, and while funding may be available under certain operating programmes, this is subject to competition from a range of interests and sourcing and targeting of funds is sometimes problematic. In addition, the monitoring of the impacts of the funding is sometimes poorly considered and cause and effect, either positive or negative, cannot be demonstrated.

There is an assumption that all Member states have an understanding of the distribution, condition and measures required for all habitats and species. This is not the case and funds should still be made available for these fundamental aspects.

Measure/Operation Objective Articles 4(4) Birds Directive and 6 (3/4) Habitats Directive – appropriate assessments and compensation:

Funding constraints for recruitment of staff with the required breadth of ecological expertise within public authorities has caused and causes delays in implementation. This has resultant consequence for delays in the development of guidance, in undertaking research to understand the effects of development and how to mitigate it. This also causes delays in decision-making and can result in projects being refused because there is insufficient expertise available to understand if the risks are real or can be avoided/mitigated sufficiently.

In addition, investment in these types of jobs is often seen as a cost to a project and the economy rather than a benefit, whereas construction sector jobs are always portrayed as a benefit to the economy.

Y.3 - If there are significant cost differences between Member States, what is causing them?

This question seeks to understand the factors that affect the costs of implementing the Directives, whether there is evidence of significant cost differences between Member States, and the causes of these cost differences. In your answer, please describe the cost differences and the reasons for them (e.g. whether they arise from specific needs, circumstances or economic factors), supported by quantitative evidence. Do these differences lead to differences in impact? Please note that Question Y.5, below, focuses on good practices in keeping costs low. For this Question Y.3 we are interested in evidence of overall differences in implementation cost (see typology of costs in Annex II to this questionnaire) along with the reasons for them.

Answer:

It is not clear to this Department if there are significant cost differences between MS. However some factors influencing costs are as follows:

In Ireland, most of the terrestrial Natura network is in private ownership, often in small land holdings. This results in high costs for awareness raising, outreach and effective management.

There are attitudinal differences across MS and even within national boundaries in relation to the imposition of EU legislation and willingness to adopt stricter environmental protection .

Some habitats can be more expensive to restore, e.g. peatlands. The amount required for restoration is depending on how much degraded habitat capable of regeneration was present when the Directive came into force. Therefore there is a relatively larger burden on Ireland to restore peatlands compared to other Member states where the peatlands had been irreversibly destroyed before the Directive came into force.

Ongoing surveillance of many habitat types can be undertaken by remote sensing, particularly if large areas are covered in forestry. Ireland's semi natural habitats are often fragmented and patchy and require relatively higher resolution imagery. Prolonged cloud cover is also an issue when commissioning imagery. Recent developments in Lidar may improve extensive monitoring.

Although Ireland has a relatively low population density the population of Ireland has risen by 28% since the Directive came into force. This rise together with considerable economic growth between 1995 and 2008 resulted in a need for substantial expansion of infrastructure. Restrictions imposed by the Directives will therefore have a different impact on different countries depending on population statistics and changes in economic development since the Directive came into force.

Y.4 - Can any costs be identified (especially regarding compliance) that are out of proportion with the benefits achieved? In particular, are the costs of compliance proportionate to the benefits brought by the Directives?

Please provide any quantitative evidence you may have demonstrating that the costs of implementing the Directives exceed the benefits. Do the Directives require any measures which give rise to significant costs but which bring about little, or only moderate benefits?. If so, please explain the extent to which any imbalances are caused by the Directives themselves, or by specific approaches to implementation.

Answer: Where successful interventions have delivered positive implementation of the Directives, this is generally good value for money.

However in some instances, the Directives may demand compliance that is very costly and will not necessarily result in a positive outcome. This is often the case in terms of species management, where species may be suffering at the edge of their geographical range (eg corncrake in the Shannon Callows, where outside flooding is having an influence) or where water quality issues are impacting on historical populations (e.g. freshwater pearl mussels in some of the 27 catchments in Ireland, where populations are low). The cost of restoring such populations may be cost prohibitive and such resources may be better invested for other areas in the species' range. Similar consideration may have to be undertaken in terms of restoration of peatland habitats.

There are particular difficulties where a very high proportion of the landscape hosts annex habitats or

species. In such cases there can be a substantial burden on the local population. For example, the Aran Islands, off Co Galway, are almost entirely composed of a priority habitat, limestone pavement. This inevitably adds constraints to the provision of housing, infrastructure and facilities for both islanders and the tourists which are a critical part of the island economy.

One of the challenges is to ensure that appropriate assessments are proportionate to the project, the sensitivities of the site involved and the risks that the former poses to the latter. A large proportion of Ireland's farming enterprises are typically small in scale and economics. Because baseline research or understanding of how their activities may affect the Natura 2000 sites in which they occur is sometimes lacking, the costs of a Natura Impact Statement may be disproportionate to the scale of the risk involved. This may be exacerbated if they occur within particularly large sites, with a high number of qualifying interests.

This topic is of particular significance in Ireland at this time when it appears that there could be a requirement to carry out an appropriate assessment process on agri-environment plans for some 30,000-50,000 farmers, a task which is clearly beyond the resources of individual farmers or indeed the national authorities.

There is a perception within rural communities, in particular within farming communities, that the costs of compliance with the Nature Directives at a farm level outweigh the benefits. Designation of land within an SAC or SPA can lower the potential value of land that would otherwise, for example, be eligible for other grant aid such as for forestry. In such cases, hostility can emerge towards the species which it intended to conserve. Finding a balanced solution is difficult. Even though agri-environment schemes are available, they may not be considered as attractive as some of the alternatives.

There can also be conservation conflicts in trying to comply with the provisions of the Directives. For example, the Department of Arts, Heritage and the Gaeltacht is endeavouring to relocate turf cutters from raised bog SACs to non-designated sites. However, within this process consideration needs to be given to the proximity of some non-designated sites to SACs.

Further investment in guidance, training and a system of standards development at the national level may help to resolve these issues

Y.5 - Can good practices, particularly in terms of cost-effective implementation, be identified?

Here we are looking for examples of where the objectives of the Directives are being met more cost-effectively in some Member States or regions than others, and the reasons for these differences. It is important to understand whether they are due to particular practices (rather than, for example, differences in needs, circumstances or economic factors) that have kept costs relatively low. We would welcome examples of differences in practices between Member States in implementing the requirements of the Directives, including initiatives designed to achieve cost-effective implementation, and evidence of whether these initiatives or practices have reduced costs in certain Member States or regions.

Answer: A series of LIFE projects have shown that well-resourced programmes, catering for substantial inclusion of local communities and with clear targeting, can be very productive and therefore cost-effective. Ideally such models could be replicated in the more general implementation but to date it has not been possible to apply such a level of resources to the work.

Y.6 - What are likely to be the costs of non-implementation of legislation?

This question seeks to gather evidence on the impacts of non-implementation of the Birds and Habitats Directives, and its associated costs, whilst assuming that some measures would be taken to conserve nature. Taking into account current national measures that do not arise directly from obligations under the Directives, please describe and, if possible, quantify, with supporting evidence, the potential impacts and associated costs of non-implementation of the Directives, for instance on: habitats and

species of Community interest and wider biodiversity; ecosystem services (eg in relation to carbon sequestration, areas for recreation); and economic and social costs (eg jobs and health).

Answer: The costs of non-implementation would be very difficult to quantify but would be wide-ranging and considerable, if the full natural capital value of protected and wider biodiversity is taken into account. It is clear that the costs of restoration far exceed the costs of correct management of habitats and species in good conservation status.

Without the driver of these articles of the Directives, it is clear that, in Ireland, particularly during the economic boom, there would have been further habitat loss, and that some of the Annexed species would be closer to extinction than is currently the case e.g. (freshwater pearl mussel, hen harrier, corncrake) as development for certain sectors in Natura 2000 sites would have continued apace. This has also served to protect areas used for recreation (e.g. roads bypassing woodlands rather than going through them), and is helping to protect water quality by insisting on higher standards of mitigation than would otherwise be required. Failure to protect key species such as salmon would have serious effects on the tourism and angling sectors. Protected habitats and sites are the cornerstone of the Irish tourism industry and failure to protect them adequately would have profound implications. Failure to protect our coastal habitats will contribute to what is becoming a significant economic factor as Ireland struggles to come to terms defending coastal communities against the changing climate and its substantial effects.

Y.7 - Taking account of the objectives and benefits of the directives, is there evidence that they have caused unnecessary administrative burden?

This question seeks to gather evidence of any unnecessary burden arising from the administrative requirements of the Directives for different stakeholders (MS authorities, businesses, landowners, non-governmental organisations, citizens). Administrative burdens are the costs to businesses and citizens of complying with information obligations resulting from legislation, and relate to information which would not be collected in the absence of the legislation. Some administrative burdens are necessary if the objectives of the legislation are to be met effectively. Unnecessary burdens are those which can be reduced without affecting the objectives. Quantitative evidence may include typical requirements in terms of human resource inputs, financial costs (such as fees and wages), delays for development and other decision-making processes, and other measures of unnecessary or disproportionate burden the administrative costs in terms of effort and time, and other inputs required, financial costs, delays and other measures of unnecessary or disproportionate burden.

Answer:

A site-by-site assessment of condition of each habitat and species followed by the identification and implementation of appropriate measures with the relevant stakeholder is a considerable administrative, scientific, financial undertaking.

There is also a considerable cost and administrative burden associated with the appropriate assessment process. Administrative burdens may occur on private developers when there has been insufficient or inadequate investment within a public authority in the necessary ecological expertise to support their decision-making. This can result in appropriate assessments being required when there is no ecological risk, or lack of clarity is provided on the scope of the assessment. Conversely, developers may cause unnecessary administrative burden on public authorities by submitting low-quality Natura Impact Statements- this can serve to lengthen the decision-making process unnecessarily.

(These observations are based on anecdotal/direct observation rather than quantitative evidence.)

Improved scientific knowledge of the area/size of habitats/populations within the Natura network is likely to result in the update of Natura Standard Data Form. Changes in the rationale behind designation will require ongoing outreach and communication with landowners which is a considerable administrative burden if it is to be undertaken effectively.

It would seem useful for the Commission to review its operating systems in order to explore whether

sufficient use is being made of IT systems and cloud technology to ease the administration burden on Member States.

The focus and efficiency with which Working Groups operate is a source of continuing concern and some degree of strategic review would seem appropriate at this time. It is unclear whether clear Terms of Reference and associated work programmes have been agreed and are being implemented in a timely manner for these Groups. For example, it seems surprising that the Commission cannot seem to finalise its reporting templates for Article 17 and Article 12 two years before the reporting deadline. This would facilitate a more orderly approach to reporting and public consultation in Member States.

The reporting framework for the Habitats Directive might further be examined to see if efficiencies could be achieved by grouping habitats that occur in mosaic at a site level.

Y.8 - Is the knowledge base sufficient and available to allow for efficient implementation?

This question seeks to establish the extent to which adequate, up-to-date and reliable information required to implement the Directives efficiently is available, such as information related to the identification, designation, management and protection of Natura 2000 sites, the choice of conservation measures, the management and restoration of habitats, the ecological requirements of species and the sustainable hunting/use of species, permitting procedures, etc. Please indicate key gaps in available knowledge relating to your country and, if relevant, at biogeographical and EU levels. If possible, please provide evidence that inadequacies in the knowledge base have contributed to the costs and burdens identified in previous questions.

Answer:

There is a generally good understanding of the requirements for some Habitats Directive species (refer to TRPs and SAPs published on www.npws.ie).

See however earlier comments on research needs to understand the effects of developments - and developing technologies - on Annex habitats and species, as well as in the design of mitigation, and in understanding the appropriate management for semi-natural habitats and the species that depend on them. These inadequacies in knowledge lead to increased burden at the individual level in preparation of assessments. Systems to facilitate analysis of cumulative effects are also inadequate.

See for example <http://oar.marine.ie/handle/10793/983>, a report on the effects of intertidal oyster (*Crassostrea gigas*) culture on the spatial distribution of waterbirds. This is one of a number of cases where the actual or potential impacts of an activity that had been ongoing for many years, were not understood.

Irish habitat experts are still struggling with the definition of many habitat types from an Irish perspective, e.g. seasonal changes to Molinia and hay meadows and tall herb grassland; ecotones between Molinia meadows and fen habitat; Tall herb communities in a woodland edge context; lake vegetation classifications. A better understanding of these habitats is required before condition can be assessed and appropriate measures undertaken.

The more data that is collected in the field through surveillance results in a refinement of the habitat definition and distribution. These changes have knock on implications for the Natura network, i.e. are the best examples protected and is the information up to date.

Relevance

Relevance concerns the extent to which the objectives of the nature Directives are consistent with the needs of species and habitats of EU conservation concern. The question of relevance relates to whether the objectives of the legislation are still necessary and appropriate; whether action at EU level is still necessary in light of the challenges identified and whether the objectives and requirements set out in the EU nature legislation are still valid.

R.1 - Are the key problems facing species and habitats addressed by the EU nature legislation?

By 'key problem', we mean the main pressures and threats that species and habitats face, which are significantly widespread in terms of their incidence (geographic extent) and/or magnitude/severity. Do the Nature Directives respond adequately to these problems? Are the specific and operational objectives of the Directives suitable in light of the key problems identified? Please justify your answers with evidence.

Answer:

It is clear after two rounds of reporting under Article 17 of the Habitats Directive, and the recent report under Article 12 of the Birds Directive, that habitats and species dependent upon agricultural systems are in bad condition across the EU. This will be evident we believe in the EEA's forthcoming Technical Report on the State of Nature. (We would note however that Ireland has repeatedly pointed out at CGBN and other fora, that there may be substantial variation in the way in which the Article 17 process is undertaken in different Member States and this could usefully be subjected to an external peer review.)

It is clear also that many species dependent on clean water are in unfavourable condition and that while the implementation of the Water Framework Directive will improve water quality, it may take many years to have positive effects.

It is likely that a significant number of mobile species, ranging from butterflies to cetaceans, are not very well served by SAC or SPA designations and it is at best unclear as to whether the burdens of designation are adequately offset by the protection achieved. Such species might better be served by a requirement for positive management measures in appropriate areas .

As indicated earlier, solutions to some of the "key problems" might require improved mainstreaming within the different Directorates of the European Commission.

One major challenge is to climate-change-proof the Natura 2000 network. Given that climate change will affect the distribution of the species and habitats to be protected, designing or updating a network that has such implications for land ownership, to adapt to CC is extremely challenging both scientifically and administratively.

R.2 - Have the Directives been adapted to technical and scientific progress?

With this question, we are seeking to examine the implications of technical and scientific progress regarding the habitats and species that the Directive focus on. Please summarise, and provide any evidence you may have that indicates that the annexes listing habitats and species in both Nature Directives are, or are not, sufficiently updated to respond to technical and scientific progress.

Answer: There is a need to ensure that the Annexes of species in the Directives can be modified to take into account more up to date scientific information e.g. "Margaritifera durrovensis" is currently listed as a species, when this has shown to be an "ecophenotype" of *M. margaritifera* (Machordom et al. 2003, Phylogeography and conservation genetics of endangered European Margaritiferidae (Bivalvia: Unionoidea) in Biological Journal of the Linnean Society, 2003,78, 235–252.)

The Habitats Directive covers most important semi natural habitat types, although the variation in the scale from a vegetation sub community to a complex landform is often difficult to survey and manage.

As a result of national surveys, it is considered that Ash-Hazel woodlands should be considered as an Annex habitat, as they are an important woodland community in the Atlantic biogeographic region.

From a marine perspective, Ireland commissioned a review by a group of international marine experts of the management and reporting framework recommended by the European Commission. They concluded that the framework fails to recognise important differences between terrestrial and marine systems and is therefore not readily applicable, and recommended that a critical review of the Article 17 reporting framework should be undertaken at a regional seas level (see http://www.npws.ie/sites/default/files/publications/pdf/Crowe%20et%20al_2011.pdf).

R.3 How relevant are the Directives to achieving sustainable development?

This question seeks to examine the extent to which the Directives support or hinder sustainable development, which is about ensuring that the needs of the present generation are met without compromising the ability of future generations to meet their own needs. It requires ensuring a balance between economic development, social development and environmental protection. . In your answer, please provide evidence of the impacts that implementation of the Directives has had in relation to these three 'pillars' of sustainable development.

Answer: The Directives are instrumental in achieving sustainable development. The legal strength of the Directives is critical in ensuring the environment is given due consideration in decisions that are supposed to achieve sustainable development e.g. planning decisions. Without that, it is likely that the other two pillars would always be prioritised and environmental protection would be minimised.

One of the overarching objectives of and essential requirements for sustainable development is the protection and management of the natural resource base. The Habitats Directive promotes habitat restoration, thereby improving carbon stocks and a reduction of pressures to habitats and species e.g. overfishing; thereby maintaining a sustainable food source.

R.4 - How relevant is EU nature legislation to EU citizens and what is their level of support for it?

The aim of this question is to understand the extent to which citizens value the objectives and intended impact of the EU nature legislation. To this end, we would like to obtain information and evidence on the extent to which nature protection is a priority for citizens (e.g. in your country), including in comparison with other priorities; for example whether citizens (e.g. in your country) support the establishment and/or expansion of protected areas, the extent to which they access/use them or; the extent to which citizens are involved in any aspect of the implementation of the Directives (e.g. participation in the development of management plans of protected areas or decisions concerning the permitting of projects which have an impact on protected areas).

Please note that the Birds and Habitats Directives may be relevant to citizens even if they do not actually know of their existence or the existence of the Natura 2000 network.

Answer: According to Flash Eurobarometer Reports, over 90 per cent of those surveyed in 2013 stated that halting biodiversity loss was a moral obligation.

Generally, groups actively engaged in support of conservation and related environmental issues, view designation as an important tool in achieving environmental aims.

Citizens are also very appreciative of sites such National Parks, which include designated areas, although visitors may not be aware of or impacted by the designations.

In contrast, and as indicated above, some interests see designation quite negatively and an impediment. There is an often-expressed view that designation leads to a "sterilisation" of land and a number of subsequent negative results. This is Counteracting this message can be difficult.

As might be expected, the relevance of EU nature legislation to individual citizens, depends, almost entirely on the impact, particularly perceived negative impact, of the legislation on their property and everyday lives. Landowners and users of land may argue that the designation of their lands as a Natura 2000 site places unjust restrictions on the use of the land. From the time of implementation of the Directives and the proposed designation of Natura 2000 sites, some 3,900 appeals were received from landowners against the inclusion of their lands in designated sites.

However, the development of various Schemes, particularly Agri-Environment Schemes, which encourage farmers to proactively manage their lands in a positive manner for Natura 2000, has shown willingness and an interest among land users to engage with EU nature law in a more positive manner.

There appears to be a growing interest amongst Non-Government Organisations, particularly those with environmental interest, but also the public in general in relation to how the Birds and Habitats Directives are implemented in Ireland. In recent years concerned citizens and activists have successfully brought challenges against decisions of public authorities in Ireland to the Court of Justice of the EU (CJEU), for example C-258/11 - Sweetman and Others. In recent years there also appears to be an increase in the use of the domestic judicial system through judicial review in order to hold public authorities to account in respect of decisions that they have made with regard to the implementation of the Directives.

This Department joined with the applicant in one such judicial review in 2014, which saw the quashing of a decision in respect of a windfarm development. In this instance the Irish High Court stated that the public authority in question had 'failed to carry out an appropriate assessment which meets the requirements of Article 6(3) of the Habitats Directive'. The court further stated that there was no evidence that an assessment was conducted which identified, in light of the best scientific knowledge in the field, all aspects of the proposed development which affect Natura 2000 sites. It was further found that the decision of the relevant authority was not based on complete, precise and definitive findings and conclusions, capable of removing all reasonable scientific doubt as to the effect of the proposed development on the integrity of the Natura 2000 sites.

It appears that in recent months this precedent is providing the catalyst for the initiation of other similar challenges to the decisions of public authorities.

R.5 - What are citizens' expectations for the role of the EU in nature protection?

The aim of this question is to obtain information and evidence on questions such as: whether citizens submit complaints or petitions to the EU requesting its involvement on cases regarding nature protection, whether citizens expect the EU to become more involved in promoting nature protection, or whether nature protection should be left to each individual Member State; whether citizens expect the EU to introduce laws on nature protection to be applied in all Member States equally or whether the EU should limit itself to coordinating Member States' initiatives; whether the EU should focus on laying down rules, or whether the EU should more actively promote their monitoring and enforcement in Member States.

Answer: Citizens in Ireland have started to use the Directives to a greater degree, when challenging the legality of planning decisions that have been made. For instance, in 2014, only one Judicial Review of a planning decision was taken, on appropriate-assessment grounds. This increased to at least 5 in 2015. These have not all been concluded, so it is not to say that their grounds for JR have been vindicated, only to point out that citizens are using the Directives more and more.

Irish citizens do also make complaints directly to the Commission regarding nature protection, before they have fully exploited the avenues available nationally. This is sometimes because of the cost associated with the avenues available nationally (e.g. in taking a Judicial Review) or because they are not sufficiently aware of their options in making complaints, or how to engage in national processes (such as the planning process or making contact with the relevant Government Departments).

Coherence

Evaluating the coherence of legislation, policies and strategies means assessing if they are logical and consistent, internally (i.e. within a single Directive), with each other (i.e. between both Directives), and with other policies and legislation. Here we are looking for evidence regarding how far and in what ways the Directives are complementary and whether there are significant contradictions or conflicts that stand in the way of their effective implementation or which prevent the achievement of their objectives.

C.1 – To what extent are the objectives set up by the Directives coherent with each other?

This question focuses on coherence between objectives within each Directive, and/or between objectives of the Birds and Habitats Directives. It covers not only the strategic objectives but also the specific and operational objectives set out in Annex I to this document. Based on experience in your country/region/sector, please provide evidence of any inconsistencies between the objectives that negatively impact on the implementation of the Directives.

Answer: There is reasonable coherence between the objectives of the two Directives. Issues arise from time to time in regard to the precedence of competing or predator/prey species, for example salmon/seals/cormorant. As salmon is a very important species for tourism and recreational angling, and subject to substantial pressures in the marine stage of its life, it is often argued that there should be culling of seals and cormorant populations to maximise return of spawning fish and

The same system is used for setting conservation objectives for habitats and species in SACs and species and wetland habitat in SPAs. Site specific conservation objectives are useful tools to facilitate appropriate assessment of plans and projects as well as to provide a basis for conservation management planning. The conservation objectives themselves do not prioritise one habitat, species or designation over another, but they do provide a basis for coherent assessment of a particular habitat's or species' requirements at site-level.

C.2 – To what extent are the Directives satisfactorily integrated and coherent with other EU environmental law e.g. EIA, SEA?

This question is similar to the previous question, but focuses on the extent to which the EU Nature Directives are coherent with and integrated into other EU environment legislation, and the extent to which they are mutually supportive. EU environment legislation of particular relevance to nature conservation includes the following:

- *Strategic environmental assessment of policy plans and programmes 2001/42/EC Directive (SEA)*
- *Environmental impact assessment of projects 85/337/EC Directive as codified by Directive 2011/92/EU (EIA)*
- *Water Framework Directive 2000/60/EC, (WFD)*
- *Marine Strategy Framework Directive 2008/56/EC (MSFD)*
- *Floods Directive 2007/60/EC (FD)*
- *National Emission Ceilings Directive 2001/81/EC (NECD)*
- *Environmental Liability Directive 2004/35/EC (ELD).*

This question considers how the main provisions and measures set out in these instruments interact with the EU nature legislation, including whether there are potential gaps or inconsistencies between these instruments and the EU nature legislation, for example whether the current permitting procedures are working in a coherent way or whether they are acting as barriers to achieve the EU Nature Directive's objectives; whether the assessments required under the different pieces of EU legislation, in particular under the EIA, are aligned or whether there are differences which result

in additional administrative burden; whether any identified gaps and inconsistencies are due to the texts of the Directives or due to implementation in your/a Member State.

Answer: . With regard to the SEA and EIA Directives and their integration with the Birds and Habitats Directives, there are clearly different imperatives and assessment questions addressed by each Directive, but these are not the same as “inconsistencies”. The greatest challenge is in ensuring practitioners and decision-makers are fully cognisant of the differences in the requirements of the Directives, and in the differences in analyses that may be required for each of them. For instance, assessment methodologies and conclusions in Environmental Impact Assessments are often inappropriately carried into Appropriate Assessments even though they need to have regard to a different type of ecological sensitivity or level of specificity.

Ireland’s Environmental Protection Agency commissioned guidance to help practitioners integrate SEA, AA and EIA requirements, while ensuring each assessment is satisfactorily addressed. *Integrated Biodiversity Impact Assessment: Streamlining AA, SEA and EIA processes: Best practice Guidance* is available at: <http://www.epa.ie/pubs/reports/research/biodiversity/executivesummary-strivereport90.html#.VPb0ZmyvkdU>

Significant areas of overlap need to be resolved between the Natura Directives and the Marine Strategy framework Directive. Interim arrangements were established during the last reporting round; however, it remains unclear how this issue will be resolved into the future. Similarly, there would seem to be significant scope for overlap and duplication of resources in working group arrangements and some clarity and rationalisation needs to be brought to this in the medium term.

C.3 - Is the scope for policy integration with other policy objectives (e.g. water, floods, marine, and climate change) fully exploited?

This question is linked to the previous questions as it addresses the extent to which the objectives of the Nature Directives have been integrated into or supported by the objectives of other relevant EU environment policies. However, this question focuses more on policy implementation. The other EU legislation and policies targeted in this question are the same as those referred to under question C.2, as well as climate change policy. When answering this question, please note that the scope of integration refers to the integration from the EU Nature Directives to other policies as well as to the extent in which the objectives of these other policies are supported by the implementation of the Nature Directives.

There is a substantial degree of integration. For example the Government set up a high-level Marine Coordination Group with representatives of all the main ministries and agencies responsible for management of marine and maritime issues. This Coordination Group includes representative of the Department of Arts, Heritage and the Gaeltacht.

A similar but tiered management structure is in place dealing with the implementation of the Water Framework Directive.

A sample text from the Interim Review of the National Biodiversity Plan (in prep.) provides a more concrete example, in regard to flooding issues

- A Multi Criteria Analysis (MCA) framework is being developed which will guide the selection of options to manage flood risk.
- This MCA will be used for the options appraisal phase in 2015 as a component of the flood risk management plans and will account for environmental objectives including habitats and species in tandem with technical, social and economic objectives.
- The OPW are continuing to ensure that all significant drainage, including both initial drainage and maintenance drainage, is assessed for its implications for biodiversity and particularly for wetlands. Under the national Environmental River Enhancement Programme 2013-2017, fisheries type enhancement works are carried out on a series of arterial drainage channels annually. These enhancement works create a more natural and diverse channel form which

benefits not only fish, but the broader biodiversity of the river corridor.

There is naturally scope for greater integration; although it should be said that many Government Departments and agencies are seeking better integration on a very wide range of programmes of work, which creates a substantial workload for all.

C.4—To what extent do the Nature Directives complement or interact with other EU sectoral policies affecting land and water use at EU and Member State level (e.g. agriculture, regional and cohesion, energy, transport, research, etc.)?

In this question we are aiming at gathering evidence on whether the provisions of EU nature legislation are sufficiently taken into account and integrated in EU sectoral policies, particularly in agriculture, rural development and forestry, fisheries and aquaculture, cohesion or regional development, energy, raw materials, transport or research policies. It also addresses whether those policies support and act consistently alongside EU nature legislation objectives. Please provide specific examples which show how the Nature Directives are coherent with, or conflict with, relevant sectoral legislation or policies. Please be as precise as possible in your answers, e.g. pointing to specific articles of the legislation and how they support or contradict requirements or objectives of other legislation or policies, stating what are main reasons or factors for the lack of consistency and whether there are national mechanisms in place to monitor coherence.

Answer: All though there have been significant advances in the development of the current Common Agriculture Policy, there is scope and a need for better integration of CAP in the future with the objectives of the Birds and Habitats Directives. Clearer guidance and direction should be provided by the EU Commission in this regard, where instances of incompatibility of policies have been identified by Member States.

As referred to in C3, this is still evolving and is “work in progress”, for the same reasons as listed above. There are natural tensions between the Directive and sectoral development, that the appropriate assessment//SEA/EIA requirements can help to resolve. A key challenge is developing stakeholder perception that these assessments are a tool to improve the sustainability and effectiveness of their plans

C.5 - How do these policies affect positively or negatively the implementation of the EU nature legislation

In this question, we are keen to gather evidence on whether agriculture and rural development, fisheries and aquaculture, cohesion or regional development, energy, raw materials, transport and research policies have a positive or negative impact on the achievement of the objectives of nature legislation. Please provide specific examples/cases (including infringement cases or case law), which demonstrate clear conflicts or incoherencies between sectoral policies and EU nature legislation, and/or examples showing how specific policies influence the implementation of the Nature Directives in a positive or negative way, for example in relation to Article 6 of the Habitats Directive (see Annex I to this questionnaire). Where possible, please include evidence of the main factors influencing the positive and negative effects. Please consider in your answer what ex ante and ex post evaluation procedures are applied to ensure that this coherence is implemented or supervised.

Answer: To date, there have been negative policy drivers in terms of rules for eligibility of land for payment supports. These rules are operated at national level across Member States, but most probably are driven at EU level. Actions taken to ensure eligibility have resulted in loss, damage to or lack of protection of important farmed habitats (or habitats, including for species, supported by extensive farming) that are identified as important under the Natura Directives). Improvements in the underpinning Direct Payments legislation now allows Member States to identify areas where “local practices” (e.g. supporting heath and scrub mosaics) can be supported under Direct Payments. It is unclear however to what extent Member States will avail of the Articles.

C.6- To what extent do they support the EU internal market and the creation of a level playing field for economic operators?

This question seeks to gather evidence of the implications of the EU Nature Directives for economic operators in terms of whether they help ensure a level playing field across the EU (e.g. by introducing common standards and requirements for activities carried out in or around Natura 2000 areas or otherwise depend on natural resources protected under the Directives), predictability and legal certainty (e.g. helping to avoid that developments are blocked due to 'Not In My Backyard' type challenges), or whether they negatively affect the internal market.

Answer: While it is correct and necessary that infringement actions are taken by the Commission where there are cases of non-implementation of the Directives, problems can occur where infringements are brought against a single Member State on a specific topic that has significant implications for the normal operation of an economic sector. In such a case, the measures required to close the case, or address a Court judgement, are often substantial, and may require changes to the normal function of the sector in the relevant Member State but in a manner that appears to be more stringent than the standards other Member States are held to. The perception generated is that this approach is distorting the commercial European marketplace. All Member States and their constituent economic sectors should be held accountable to the same operational conditions (that give effect to the legal requirements).

C.7–To what extent has the legal obligation of EU co-financing for Natura 2000 under Article 8 of the Habitats Directive been successfully integrated into the use of the main sectoral funds?

This question builds on question Y.2 on the availability and access to funding, but aims at examining whether Member States have sufficiently identified the funding needs and are availing of EU funding opportunities to meet the requirements of Article 8 of the Habitats Directive. EU co-funding for the Natura 2000 network has been made available by integrating biodiversity goals into various existing EU funds or instruments such as the European Agricultural Fund for Rural Development (EAFRD), European (Maritime and) Fisheries Fund (EFF / EMFF), Structural and Cohesion funds, LIFE and Horizon 2020. In your reply, please distinguish between different sources of funding.

Answer: There has been some success. The development of Prioritised Action Frameworks has considerably assisted in the identification of funding priorities and engagement with those Departments involved in negotiating payments from the main EU funding instruments, in particular the EAFRD.

C.8- Are there overlaps, gaps and/or inconsistencies that significantly hamper the achievements of the objectives?

This question refers to overlaps, gaps and/or inconsistencies in the different EU law/policy instruments regarding nature protection. It therefore depends largely on the results of other questions related to the coherence of the Nature Directives with other EU law and policies. When answering this question you may want to consider whether the identified overlaps, gaps and inconsistencies hamper the achievement of the Directive's objectives (e.g. see Annex I to this questionnaire).

Answer:

C.9- How do the directives complement the other actions and targets of the biodiversity strategy to reach the EU biodiversity objectives?

With this question we seek to collect evidence on ways in which the implementation of measures under the Birds and Habitats Directives that are not explicitly mentioned in the EU Biodiversity Strategy,

help to achieve actions and targets of the EU Biodiversity Strategy. For example, restoration of Natura 2000 sites can significantly contribute to helping achieve the goal under Target 2 of the EU Biodiversity Strategy to restore at least 15% of degraded ecosystems.

Answer:

C.10: How coherent are the directives with international and global commitments on nature and biodiversity?

This question seeks to assess whether and how the EU nature legislation ensures the implementation of obligations arising from international commitments on nature and biodiversity which the EU and/or Member States have subscribed to², and whether there are gaps or inconsistencies between the objectives and requirements of the EU nature legislation and those of relevant international commitments, including the way they are applied. For example, the Directives' coherence with international agreements which establish targets relating to nature protection and/or require the establishment of networks of protected areas.

Answer:

² e.g. Bern Convention; Convention on Biological Diversity; Convention for the Protection of the World Cultural and Natural Heritage; Ramsar Convention; European landscape Convention; CITES Convention; CMS (Bonn) Convention; International Convention for the protection of Birds; Agreement on the Conservation of African-Eurasian Migratory Waterbirds; Regional Sea Conventions (Baltic, North East Atlantic, Mediterranean and Black Sea).

EU Added Value

Evaluating the EU added value means assessing the benefits/changes resulting from implementation of the EU nature legislation, which are additional to those that would have resulted from action taken at regional and/or national level. We therefore wish to establish if EU action (that would have been unlikely to take place otherwise) made a difference and if so in what way? Evidence could be presented both in terms of total changes since the Directives became applicable in a particular Member State, in changes per year, or in terms of trends.

AV.1 - What has been the EU added value of the EU nature legislation?

When responding to this question, you may wish to consider the following issues: What was the state of play or the state of biodiversity in your country at the moment of the adoption of the Directives and/or your country's entry into the EU? To what extent is the current situation due to the EU nature legislation? In answering this question, please consider different objectives/measures set out in the Directives (eg regarding protected areas, species protection, research and knowledge, regulation of hunting, etc, including their transboundary aspects).

Answer: The EU nature legislation has significantly enhanced the level of protection afforded to habitats in particular and also certain species in Ireland.

AV.2 - What would be the likely situation in case of there having been no EU nature legislation?

This question builds on question AV.1. In answering it, please consider the different objectives/measures set out in the Directives (eg. whether there would be a protected network such as that achieved by Natura 2000; whether the criteria used to identify the protected areas would be different, whether funding levels would be similar to current levels in the absence of the Nature Directives; the likelihood that international and regional commitments relating to nature conservation would have been met; the extent to which nature conservation would have been integrated into other policies and legislation, etc).

Answer:

Substantial protection for many species already existed under the Wildlife Acts (1976 and as amended). It is clear that certain species have prospered through the regulation of hunting since then. However that Act provides protection of habitats mainly through designation of nature reserves and wildlife sanctuaries, and does not set criteria for the selection of protected areas. It is likely therefore that there would have been significant negative impacts on habitats and species, resulting in further losses of biodiversity.

The significant and accelerated economic growth generally experienced over the past two decades has given rise to considerable development and other land use pressures. It is likely that such pressures would have a greater negative impact on habitats and some species had the Directives not been present to establish a formal system of protection as well as a formal process for identifying and evaluating impacts of works on sensitive habitats and species.

The development of jurisprudence in both national courts and particularly the Court of Justice has provided a benchmark for assessment and authorisations of plans and projects (e.g. "prior to its approval, all the aspects of the plan or project which can, by themselves or in combination with other plans or projects, affect the site's conservation objectives must be identified in the light of the best scientific knowledge in the field" (CASE C-127/02). This benchmark should ensure a high level of consideration and assessment of potential impacts of projects, plans and other land use activities on

sensitive habitats and species. Consent Authorities have a clear obligation to ensure that projects or plans can only be consented to where it is certain that there will be no adverse impacts on the integrity of protected sites. Without such framework and obligation it is doubtful that habitats and species would be afforded the protection that is required to ensure their long-term conservation.

AV. 3- Do the issues addressed by the Directives continue to require action at EU level?

When answering this question the main consideration is to demonstrate with evidence whether or not EU action is still required to tackle the problems addressed by the Directives. Do the identified needs or key problems faced by habitats and species in Europe require action at EU level?

Answer:

Annex 1: Objectives of the Directives

Overall objective	To contribute to ensuring biodiversity through conservation of Europe's most valuable and threatened habitats and species, especially within Natura 2000	
	Birds Directive	Habitats Directive
Strategic Objectives	Art. 2: Maintain the population of all species of naturally occurring wild birds in the EU at a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic and recreational requirements, or to adapt the population of these species to that level.	Art 2: Maintain or restore natural habitats and species of Community interest at a favourable conservation status (FCS), taking into account economic, social and cultural requirements and regional and local characteristics.
Specific Objectives	Art. 3: Preserve, maintain or re-establish a sufficient diversity and area of habitats' for birds, primarily by creating protected areas, managing habitats both inside and outside protected areas, re-establishing destroyed biotopes and creating new ones. Art. 5: Establish a general system of protection for all birds. Art. 7: Ensure hunting does not jeopardize conservation efforts and complies with the principles of wise use and ecologically balanced control of the species concerned.	Art 4: Establish Natura 2000 – a coherent network of special areas of conservation (SACs) hosting habitats listed in Annex I) and habitats of species listed in Annex II), sufficient to achieve their FCS across their natural range, and SPAs designated under the Birds Directive. Art. 6: Ensure SCIs and SACs are subject to site management and protection. Art 10: Maintain/develop major landscape features important for fauna and flora Art. 12-13: ensure strict protection of species listed in Annex IV. Art. 14: ensure the taking of species listed in Annex V is in accordance with the maintenance of FCS. Art. 22: Consider the desirability of reintroducing species listed in Annex IV that are native to their territory.
Measures/ Operations objectives	Site Protection system Art. 4: 4(1): Designate Special Protection Areas (SPAs) for threatened species listed in Annex I and for regularly occurring migratory species not listed in Annex I, with a particular attention to the protection of wetlands and particularly to wetlands of international importance. 4(3): Ensure that SPAs form a coherent whole. 4(4): [Obligations under Art 6(2), (3) and (4) of Habitats Directive replaced obligations under first sentence of 4(4)]. Outside SPAs, strive to avoid pollution or deterioration of habitats. Species protection system Art. 5 (a-e): Prohibit certain actions relating to the taking, killing and deliberate significant disturbance of wild birds, particularly during the breeding and rearing periods. Art. 6: Prohibit the sale of wild birds except of species listed in Annex III/Aand, subject to consultation with the Commission, those listed in Annex	Site Protection system Arts. 4 & 5: Select Sites of Community Importance (SCIs) and SACs, in relation to scientific criteria in Annex III. Art. 6(1): Establish necessary conservation measures for SACs. Art. 6(2): [Take appropriate steps to?] Avoid the deterioration of habitats and significant disturbance of species in Natura 2000 sites. Plans or projects Art. 6(3/4): Ensure, through an 'appropriate assessment' of all plans or projects likely to have a significant effect on a Natura 2000 site, that those adversely affecting the integrity of the site are prohibited unless there are imperative reasons of overriding public interest. Art. 6(4): When plans or projects adversely affecting the integrity of a site are nevertheless carried out for overriding reasons, ensure that all compensatory measures necessary are taken to ensure the overall coherence of Natura 2000. Financing Art. 8: Identify required financing to achieve favourable conservation status of

	<p>III/B. Art. 7: Regulate hunting of species listed in Annex II and prohibit hunting in the breeding and rearing seasons and, in the case of migratory birds, on their return to breeding grounds. Art. 8: Prohibit the use of all means of large-scale or non-selective capture or killing of birds, or methods capable of causing the local disappearance of species, especially those listed in Annex IV. Art. 9: Provide for a system of derogation from protection of species provisions under specified conditions</p> <p>Research Art. 10: Encourage research into relevant subjects, especially those listed in Annex V.</p> <p>Non-native species Art 11: Ensure introductions of non-native species do not prejudice local flora and fauna.</p> <p>Reporting Art 12: report each 3 years on implementation</p>	<p>priority habitats and species, for the Commission to review and adopt a framework of aid measures.</p> <p>Landscape features Art 10: Where necessary, encourage the management of landscape features to improve the ecological coherence of the Natura 2000 network.</p> <p>Surveillance Art. 11: Undertake surveillance of the conservation status of habitats and species of Community interest.</p> <p>Species protection system Art 12 & 13: Establish systems of strict protection for animal species and plant species of Annex IV prohibiting specified activities. Art. 14: Take measures to ensure that taking/ exploitation Annex V species is compatible with their maintenance at FCS Art. 15: Prohibit indiscriminate means of capture/killing as listed in Annex VI. Art. 16: Provide for a system of derogation from protection of species provisions under specified conditions</p> <p>Reporting Art 17: report on implementation each 6 years, including on conservation measures for sites and results of surveillance.</p> <p>Research Art. 18: undertake research to support the objectives of the Directive.</p> <p>Non-native species Art. 22: ensure that introductions of non-native species do not prejudice native habitats and species.</p>
--	--	--

Annex 2: Typology of cost and benefits

This annex sets out a typology of costs and benefits resulting from implementation of the Nature Directives in the EU, which need to be considered in the evaluation.

Typology of Costs

The evaluation will consider costs which result directly and indirectly from the Directives, including both monetary costs (i.e. involving direct investments and expenditures) and non-monetary costs (involving additional time inputs, permitting delays, uncertainty and missed opportunities).

It will include both the **compliance costs** of the legislation, and any **opportunity costs** resulting from missed or delayed opportunities for development or other activities. Compliance costs can be further divided into **administrative costs** and **costs of habitat and species management**. Examples of each of these types of costs are set out in Table 1.

Administrative costs refer to the costs of providing information, in its broadest sense (i.e. including costs of permitting, reporting, consultation and assessment). When considering administrative costs, an important distinction must be made between information that would be collected by businesses and citizens even in the absence of the legislation and information that would not be collected without the legal provisions. The costs induced by the latter are called **administrative burdens**.

Evidence of these costs will include:

- **Monetary estimates** of investments required and recurrent expenditures on equipment, materials, wages, fees and other goods and services; and
- **Non-monetary estimates** of administrative time inputs, delays, missed opportunities and other factors affecting costs.

Typology of benefits

The evaluation will collect evidence on the direct and indirect benefits derived from EU nature legislation, which include benefits for biodiversity and for the delivery of ecosystem services, and the resultant effects on human well-being and the economy.

The **ecosystem services** framework provides a structured framework for categorising, assessing, quantifying and valuing the benefits of natural environmental policies for people. However, it is also widely recognised that biodiversity has **intrinsic value** and that the Directives aim to protect habitats and species not just for their benefits to people, but because we have a moral duty to do so. In addition, consideration of benefits needs to take account of the **economic impacts** of implementation of the legislation, including effects on jobs and output resulting from management activities as well as the effects associated with ecosystem services (such as tourism).

A typology of benefits is given in Table 2. Assessment of the benefits of the Directives for biodiversity is a major element in the evaluation of their effectiveness. Effects on ecosystem services will be assessed in both:

- **Biophysical terms** – e.g. effects on flood risk, number of households provided with clean water, number of visitors to Natura 2000 sites etc.; and
- **Monetary terms** – e.g. reduced cost of water treatment and flood defences, value of recreational visits, willingness to pay for conservation benefits.

Evidence of economic impacts will include estimates of expenditures by visitors to Natura 2000 sites, employment in the creation and management of the Natura 2000 network, and resultant effects on gross value added in local and national economies.

Typology of costs resulting from the Nature Directives

Type of costs	Examples
Administrative costs	<ul style="list-style-type: none"> • Site designation, including scientific studies, administration, consultation etc. • Establishing and running of management bodies • Preparation and review of management plans • Public communication and consultation • Spatial planning • Development casework, including time and fees involved in applications, permitting and development casework affecting habitats and species, including conducting appropriate assessments • Time and fees involved in compliance with species protection measures, including derogations • Research • Investigations and enforcement
Habitat and species management costs	<p>Investment costs:</p> <ul style="list-style-type: none"> • Land purchase • Compensation for development rights • Infrastructure for the improvement/restoration of habitat and species • Other infrastructure, e.g. for public access, interpretation works, observatories etc. <p>Recurrent costs - habitat and species management and monitoring:</p> <ul style="list-style-type: none"> • Conservation management measures– maintenance and improvement of favourable conservation status for habitats and species • Implementation of management schemes and agreements with owners and managers of land or water • Annual compensation payments • Monitoring and surveillance • Maintenance of infrastructure for public access, interpretation etc. • Risk management (fire prevention and control, flooding etc.)
Opportunity costs	<ul style="list-style-type: none"> • Foregone development opportunities resulting from site and species protection, including any potential effects on output and employment • Delays in development resulting from site and species protection, and any potential effects on output and employment • Restrictions on other activities (e.g. recreation, hunting) resulting from species and site protection measures

Typology of Benefits

Type of benefit	Examples
Benefits for species and habitats	<p>Extent and conservation status of habitats</p> <p>Population, range and conservation status of species</p>
Ecosystem services	<p>Effects of Directives on extent and value (using a range of physical and monetary indicators) of:</p> <ul style="list-style-type: none"> • Provisioning services – food, fibre, energy, genetic resources, fresh water, medicines, and ornamental resources. • Regulating services – regulation of water quality and flows, climate, air quality, waste, erosion, natural hazards, pests and diseases, pollination. • Cultural services – recreation, tourism, education/ science, aesthetic, spiritual and existence values, cultural heritage and sense of place. • Supporting services – soil formation, nutrient cycling, and primary production.
Economic impacts	<p>Effects of management and ecosystem service delivery on local and national economies, measured as far as possible in terms of:</p> <ul style="list-style-type: none"> • Employment – including in one-off and recurring conservation management actions, as well as jobs provided by tourism and other ecosystem services (measured in full time equivalents); • Expenditure – including expenditures by visitors as well as money spent on conservation actions; • Business revenues – including effects on a range of land management, natural resource, local product and tourism businesses; • Local and regional development – including any effects on investment, regeneration and economic development; and • Gross Value Added – the additional wages, profits and rents resulting from the above.

Appendix 1.

Habitats Directive Art. 18 research

Selection of research publications since 2007

SPECIES

- Dibner, R., Lawton, C. & Marnell, F. (2014) Reproduction of common frogs, *Rana temporaria*, in a managed conifer forest and bog landscape in western Ireland *Herpetological Conservation and Biology* 9(1): 38–47.
- Neil Reid, S. Karina Dingerkus, Richard E. Stone, John Buckley, Trevor J.C. Beebee, Ferdia Marnell and John W. Wilkinson (2014) Assessing historical and current threats to common frog *Rana temporaria* populations in Ireland. *J. of Herpetology* 48 (1): 13-19. Impact factor - 1.078
- Reid, N. Lundy, Brian Hayden, Tony Waterman, Declan Looney, Deirdre Lynn, Ferdia Marnell, Robbie A. McDonald and W. Ian Montgomery (2014) Covering over the cracks in conservation assessments at EU interfaces: A cross-jurisdictional ecoregion scale approach using the Eurasian otter (*Lutra lutra*). *Ecological Indicators* 45 (2014): 93–102. Impact factor – 2.89
- McDonnell, R.J., O'Meara, K., Nelson, B., Marnell F. and Gormally, M.J. (2013) Revised distribution and habitat associations for the protected slug *Geomalacus maculosus* (Gastropoda, Arionidae) in Ireland. *Basteria* 77 (1-3): 33-37.
- Reid, N., Danielle Thompson, Brian Hayden, Ferdia Marnell, W. Ian Montgomery (2013) Review and quantitative meta-analysis of diet suggests the Eurasian otter (*Lutra lutra*) is likely to be a poor bioindicator. *Ecological Indicators* **26**: 5–13. Impact factor – 2.695
- Neil Reid, S. Karina Dingerkus, Richard E. Stone, Ruth Kelly, John Buckley, Trevor J.C. Beebee, Ferdia Marnell & John W. Wilkinson (2013) Population enumeration and assessing conservation status in a widespread amphibian: a case study of *Rana temporaria* in Ireland. *Animal Conservation* 16, (5), 519–527. Impact factor – 2.931
- Daniel J. Buckley, Mathieu G. Lundy, Emma S. M. Boston, David D. Scott, Paulo Prodohl, Ferdia Marnell, W. Ian Montgomery, Emma C. Teeling (2012 online) The spatial ecology of the whiskered bat (*Myotis mystacinus*) at the western extreme of its range provides evidence of regional adaptation. *Mammalian Biology* <http://dx.doi.org/10.1016/j.mambio.2012.06.007> Impact factor – 1.264
- Marnell, F., O'Neill L. & Lynn, D. (2012) How to calculate range and population size for otter? The Irish approach as a case study. *IUCN Otter Spec. Group Bull.* 28(B) 2011 15-22.
- Aubry, A., Bécart, E., Davenport, J., Lynn, D., Marnell, F. & Emmerson, M. (2012) Patterns of synchrony in natterjack toad breeding activity and reproductive success at local and regional scales. *Ecography* 35 (8): 749–759. doi: 10.1111/j.1600-0587.2011.06912.x - Impact factor - 4.417
- Mathieu G Lundy, Daniel J Buckley, Emma SM. Boston, David D Scott, Paulo A Prodöhl, Emma C Teeling, Ferdia Marnell & W Ian Montgomery (2012) Behavioural context of multi-scale species distribution models assessed by radio-tracking. *Basic & Applied Ecology* **13**: 188-195. <http://dx.doi.org/10.1016/j.baae.2011.12.003>, - Impact Factor: 2.199
- Roche, N., Langton, S, Aughney, T., Russ, J.M., Marnell, F., Lynn, D. & Catto, C. (2011) A car-based monitoring method reveals new information on bat populations and distributions in Ireland. *Animal Conservation* **14**: 642–651. - Impact factor – 2.906
- Lundy M., Teeling E. C., Boston E. S. M, Scott D. D, Buckley D. J., Prodöhl P. A., Marnell F., Montgomery W. I. (2011) The Shape of Sound: Elliptic fourier descriptors (EFD) discriminate the echolocation calls of *Myotis* bats (*M. daubentonii*, *M. nattereri* and *M. mystacinus*). *Bioacoustics, the International Journal of Animal Sound and its Recording.* 20: 101-116. – Impact factor - 1.619
- Dingerkus, K., Stone, R.E., Wilkinson, J., Marnell F. & Reid, N. (2010) Developing a methodology for the National Frog Survey of Ireland: a pilot study in Co. Mayo. *Irish Naturalists' Journal* 31: 85-90.
- Boston, E. S. M., Buckley D., Bekaert M., Lundy M. G., Gager, Y., Scott D. D., Prodohl, P. A., Montgomery, I., Marnell, F., Teeling, E. (2010) The status of the cryptic species, *Myotis mystacinus* (Whiskered bat) and *Myotis brandtii* (Brandt's bat) in Ireland. *Acta Chiropterologica* 12(2):457-461. Impact factor - 1.12

- Marnell, F. and Presetnik, P. (2010) Protection of overground roosts for bats (particularly roosts in buildings of cultural heritage importance). *EUROBATS Publication Series* No. 4. UNEP/EUROBATS Secretariat, Bonn, Germany.
- Doyle, T.K., Houghton, J.D., O'Suilleabháin, P.F., Hobson, V.J., **Marnell, F.**, Davenport, J. and Hays, G.C. (2008) Leatherback turtles satellite-tagged in European waters. *Endangered Species Research*, **4**:23-31. Impact factor – 2.259.
- Reid, N., Dingerkus, K., Montgomery, W.I., Marnell, F., Jeffrey, R., Lynn, D., Kingston, N. & McDonald, R.A. (2007) Status of hares in Ireland. *Irish Wildlife Manuals* No. 30. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Aubry, A., Bécart, E., Davenport, J., **Lynn, D.E.**, Marnell, F. & Emmerson, M.C. (2012). Spatiotemporal dynamics of toad breeding activity and success at local and regional scales. *Ecography*, **35**, 1-11.
- Lundy, M.G., Aughney, T., Montgomery, W.I., & Roche, N. (2011) Landscape conservation for Irish bats & species specific roosting characteristics. Unpublished Report. Bat Conservation Ireland. http://www.batconservationireland.org/pubs/reports/Landscape_Conservation_Irish_Bats.pdf
- Mc Donnell, R.J. & Gormally, M.J. (2011a) Identification of a live trapping method for the protected European slug, *Geomalacus maculosus* Allman 1843 (Arionidae). *Journal of Conchology* **40**: 483-485.
- Mc Donnell, R.J. & Gormally, M.J. (2011b) Distribution and Population Dynamics of the Kerry Slug, *Geomalacus maculosus* (Arionidae). *Irish Wildlife Manual* No 54. National Parks and Wildlife Service, Department of Arts, Heritage & the Gaeltacht, Dublin.

HABITATS

All publications listed below developed classifications systems to refine the definition of the annexed habitat in Ireland.

Cooper, F., Stone, R.E., McEvoy, P., Wilkins, T. & Reid, N. (2012) The conservation status of juniper formations in Ireland. *Irish Wildlife Manuals*, No. 63. Vol. 1 - Main Report. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.

<http://www.npws.ie/sites/default/files/publications/pdf/IWM63.pdf>

Roden, C. and Murphy, P. (2013) A survey of the benthic macrophytes of three hard-water lakes: Lough Bunny, Lough Carra and Lough Owel. *Irish Wildlife Manuals*, No. 70. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

http://www.npws.ie/sites/default/files/publications/pdf/IWM%2070%20Hard%20water%20lake_low%20res.pdf

O'Neill, F.H., Martin, J.R., Devaney, F.M. & Perrin, P.M. (2013) National survey of Irish semi-natural grasslands 2007-2012: mapping classification and assessment. *Irish Wildlife Manuals*, No. 78. National Parks & Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

<http://www.npws.ie/sites/default/files/publications/pdf/IWM-78-Irish-semi-natural-grassland-survey.pdf>

Barron, S.J., Delaney, A., Perrin, P.M., Martin, J.R. and O'Neill, F.H. (2011). National survey and assessment of the conservation status of Irish sea cliffs. *Irish Wildlife Manuals*, No. 53. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.

<http://www.npws.ie/sites/default/files/publications/pdf/IWM53.pdf>

Perrin, P.M., Barron, S.J., Roche, J.R. & O'Hanrahan, B. (2014) Guidelines for a national survey and conservation assessment of upland vegetation and habitats in Ireland. Version 2.0. *Irish Wildlife Manuals*, No. 79. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

<http://www.npws.ie/sites/default/files/publications/pdf/IWM79.pdf>

Wilson, S. & Fernandez, F. (2013) National survey of limestone pavement and associated habitats in Ireland. Irish Wildlife Manuals, No. 73. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Dublin.

<http://www.npws.ie/sites/default/files/publications/pdf/IWM73%20Limestone%20pavement.pdf>

Perrin, P., Martin, J., Barron, S., O'Neill, F., McNutt, K. & Delaney, A. (2008) National survey of native woodlands 2003-2008. Unpublished report submitted to National Parks & Wildlife Service, Dublin.

http://www.npws.ie/sites/default/files/publications/pdf/Perrin_et_al_2008_NSNW_V1.pdf

PhD/MSc theses directly related to Annexed species and habitats

Porst, G. (2009). *The effects of Season, Habitat, Hydroperiod and Water Chemistry on the Distribution of Turlough Aquatic Invertebrate Communities*. Unpublished Ph. D. thesis. University of Dublin, Trinity College

Sharkey, N. (2012). *Turlough Vegetation Communities – Links with Hydrology, Hydrochemistry, Soils and Management*. Unpublished Ph.D. Thesis, University of Dublin.

Naughton, O. (2011). *The Hydrology and Hydroecology of Turloughs*. Unpublished PhD thesis, University of Dublin.

Pereira, H. (2010). *Hydrochemistry and Algal Communities of Turloughs (Karstic Seasonal Lakes)*. Unpublished PhD thesis, University of Dublin.

Lyons, M. D. (2015). *The flora and conservation status of Petrifying springs*. Unpublished PhD thesis, University of Dublin.

Mitchell, N. (2014). Determining seepage flows and water chemistry of Petrifying springs. Unpublished MSc. thesis, Newcastle University, UK.

Aubry AE (2009) Population dynamics of the natterjack toad (*Bufo calamita*) in a fragmented pond complex, South West Ireland.

PhD thesis, University College Cork

Campbell, C. (2013). *Conservation of selected legally protected and Red Listed bryophytes in Ireland*. Unpublished Ph.D. thesis, Trinity College Dublin.

Muldoon, C. S. (2011). *Conservation Biology of *Saxifraga hirculus* L. in Ireland*. Unpublished Ph.D. thesis, Trinity College Dublin.

Ní Dhúill, E. (2014) *Conservation Biology of the Threatened Killarney Fern (*Trichomanes speciosum* Willd.) in Ireland*. Unpublished Ph.D. thesis, University of Dublin, Trinity College.