# GOOD PRACTICE NOTE

## on Strategic Environmental Assessment for the Forestry Sector

Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

# ENVIRONMENTAL PROTECTION AGENCY

The Environmental Protection Agency (EPA) is responsible for protecting and improving the environment as a valuable asset for the people of Ireland. We are committed to protecting people and the environment from the harmful effects of radiation and pollution.

## The work of the EPA can be divided into three main areas:

Regulation: *We implement effective regulation and environmental compliance systems to deliver good environmental outcomes and target those who don't comply.*

Knowledge: *We provide high quality, targeted and timely environmental data, information and assessment to inform decision making at all levels.*

Advocacy: *We work with others to advocate for a clean, productive and well protected environment and for sustainable environmental behaviour.*

## Our Responsibilities

### Licensing

We regulate the following activities so that they do not endanger human health or harm the environment:

- waste facilities (*e.g. landfills, incinerators, waste transfer stations*);
- large scale industrial activities (*e.g. pharmaceutical, cement manufacturing, power plants*);
- intensive agriculture (*e.g. pigs, poultry*);
- the contained use and controlled release of Genetically Modified Organisms (*GMOs*);
- sources of ionising radiation (*e.g. x-ray and radiotherapy equipment, industrial sources*);
- large petrol storage facilities;
- waste water discharges;
- dumping at sea activities.

### National Environmental Enforcement

- Conducting an annual programme of audits and inspections of EPA licensed facilities.
- Overseeing local authorities' environmental protection responsibilities.
- Supervising the supply of drinking water by public water suppliers.
- Working with local authorities and other agencies to tackle environmental crime by coordinating a national enforcement network, targeting offenders and overseeing remediation.
- Enforcing Regulations such as Waste Electrical and Electronic Equipment (WEEE), Restriction of Hazardous Substances (RoHS) and substances that deplete the ozone layer.
- Prosecuting those who flout environmental law and damage the environment.

### Water Management

- Monitoring and reporting on the quality of rivers, lakes, transitional and coastal waters of Ireland and groundwaters; measuring water levels and river flows.
- National coordination and oversight of the Water Framework Directive.
- Monitoring and reporting on Bathing Water Quality.

### Monitoring, Analysing and Reporting on the Environment

- Monitoring air quality and implementing the EU Clean Air for Europe (CAFÉ) Directive.
- Independent reporting to inform decision making by national and local government (*e.g. periodic reporting on the State of Ireland's Environment and Indicator Reports*).

### Regulating Ireland's Greenhouse Gas Emissions

- Preparing Ireland's greenhouse gas inventories and projections.
- Implementing the Emissions Trading Directive, for over 100 of the largest producers of carbon dioxide in Ireland.

### Environmental Research and Development

- Funding environmental research to identify pressures, inform policy and provide solutions in the areas of climate, water and sustainability.

### Strategic Environmental Assessment

- Assessing the impact of proposed plans and programmes on the Irish environment (*e.g. major development plans*).

### Radiological Protection

- Monitoring radiation levels, assessing exposure of people in Ireland to ionising radiation.
- Assisting in developing national plans for emergencies arising from nuclear accidents.
- Monitoring developments abroad relating to nuclear installations and radiological safety.
- Providing, or overseeing the provision of, specialist radiation protection services.

### Guidance, Accessible Information and Education

- Providing advice and guidance to industry and the public on environmental and radiological protection topics.
- Providing timely and easily accessible environmental information to encourage public participation in environmental decision-making (*e.g. My Local Environment, Radon Maps*).
- Advising Government on matters relating to radiological safety and emergency response.
- Developing a National Hazardous Waste Management Plan to prevent and manage hazardous waste.

### Awareness Raising and Behavioural Change

- Generating greater environmental awareness and influencing positive behavioural change by supporting businesses, communities and householders to become more resource efficient.
- Promoting radon testing in homes and workplaces and encouraging remediation where necessary.

### Management and Structure of the EPA

The EPA is managed by a full time Board, consisting of a Director General and five Directors. The work is carried out across five Offices:

- Office of Environmental Sustainability
- Office of Environmental Enforcement
- Office of Evidence and Assessment
- Office of Radiation Protection and Environmental Monitoring
- Office of Communications and Corporate Services

The EPA is assisted by an Advisory Committee of twelve members who meet regularly to discuss issues of concern and provide advice to the Board.


# Good Practice Note
## on Strategic Environmental Assessment
## for the Forestry Sector

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**Disclaimer**



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# Table of Contents

# 1. Introduction and summary of SEA Directive requirements

This note provides good practice guidance on how to carry out strategic environmental assessment (SEA) of forestry strategies/plans. It does not constitute statutory guidance and is intended to promote a good practice approach to the application of SEA in the forestry sector. SEA aims to provide for a high level of protection of the environment and to contribute to the integration of environmental consideration into the preparation and adoption of plans, programmes and other strategies (together called 'strategies' in this document).

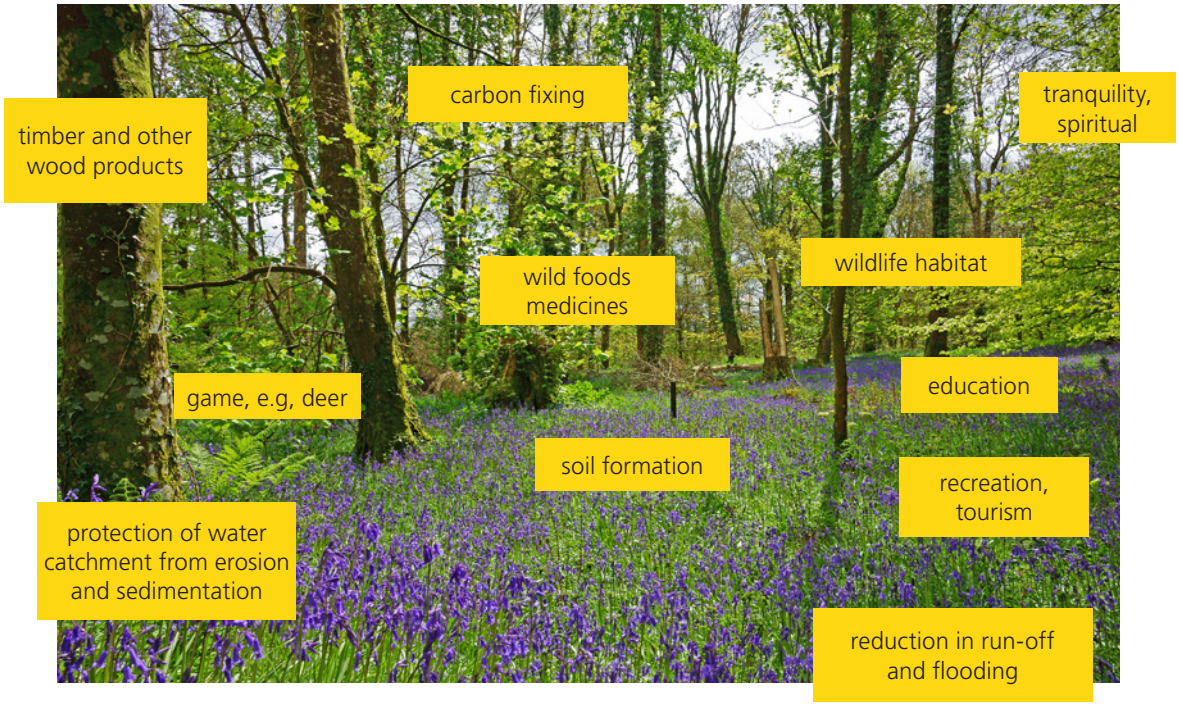
Forestry can provide many environmental and social benefits (Figure 1.1), including:

- provisioning: production of timber, other wood products, wild foods, game, etc.;
- regulating: carbon fixing, reduction in run-off, protection of the watershed etc.;
- supporting: soil formation, wildlife habitats etc.;
- cultural: recreation and tourism, education, tranquillity etc.

Part of the role of SEA is to help ensure that these benefits are maximised.

However, forestry can also have negative effects if poorly managed and located. Planting, thinning and harvesting can result in soil erosion, siltation and nutrient enrichment of waterbodies, traffic impacts, and changes in habitats and the landscape. Forestry can also have long-term opportunity costs. For instance, using land for biofuel can prevent it from being used for food production or mineral extraction; tall trees can affect the efficiency of wind turbines, etc. The role of SEA is to identify, evaluate and help to minimise these impacts.

**Figure 1.1:** Examples of benefits provided by forests and woodlands.



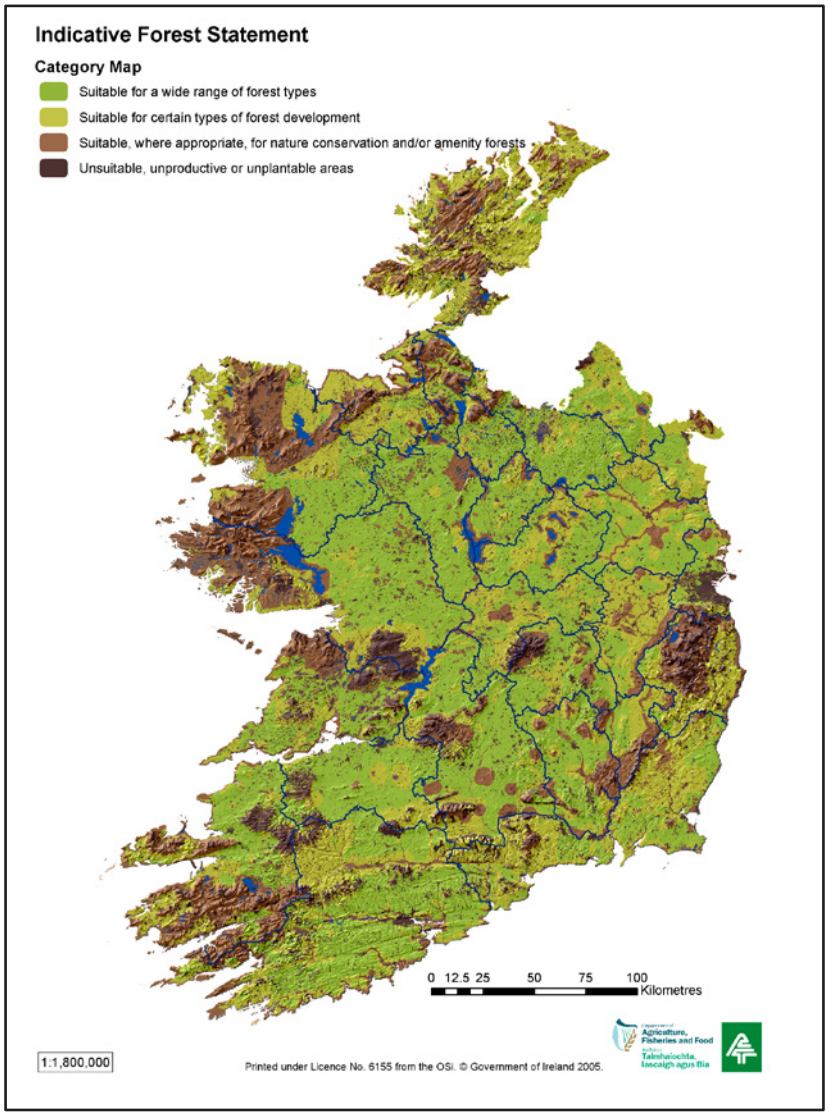
## Forestry planning in Ireland

Ireland's forest policy review of 2014, *Forests, Products and People*[1], has as a strategic goal:

> "To develop an internationally competitive and sustainable forest sector that provides a full range of economic, environmental and social benefits to society and which accords with the Forest Europe definition of sustainable forest management".

It aims to significantly increase Ireland's forest area and ensure the sustainable management of the forest resource. The *Forestry Programme 2014-2020: Ireland*[2] supports these aims. Ireland's *Indicative Forestry Statement*[3] of 2008 provides high-level national guidance in relation to the suitability of land for afforestation. Its main output has been a map (Figure 1.2) showing areas that are more (and less) suitable for afforestation.

**Figure 1.2:** The *Indicative Forestry Statement*[3] map, showing the suitability of areas in Ireland for afforestation.




1 https://www.agriculture.gov.ie/media/migration/forestry/forestpolicyreviewforestsproductsandpeople/00487%20Forestry%20Review%20-%20web%2022.7.14.pdf

2 https://www.agriculture.gov.ie/forestservice/forestryprogrammes2014-2020/

3 www.agriculture.gov.ie/media/migration/forestry/IFSDoc_Dec08.pdf

*Food Wise 2025*[4] and the *Draft Bioenergy Plan*[5] also promote increased afforestation, including more planting for biofuels. The *Draft Plan for Forests & Freshwater Pearl Mussel in Ireland*[6] aims to deal with the impacts of forestry on protected mussels.

Forestry plans/strategies may require SEA under the European SEA Directive[7] and under

- S.I. No. 435 European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004
- S.I. No. 200 European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011

## Strategic environmental assessment (SEA) requirements

SEA is basically good planning: it involves collecting information about the policy and environmental context in which a plan/strategy will operate, consulting expert bodies and the public, considering alternative ways of achieving the strategy's objectives, assessing and comparing the environmental impacts of these alternatives, choosing a preferred alternative and fine-tuning it, and setting up a system for making sure that the strategy is implemented as expected. As such, it should not greatly lengthen the time it takes to prepare the strategy or increase the cost of doing so. The main difference from traditional planning is that SEA is more explicit about these stages and formally documents them in an Environmental Report. Figure 1.3 shows how SEA fits with the plan-making process. Note that while this example is taken from a waste plan, the same stepwise processes apply for forestry plans/strategies.

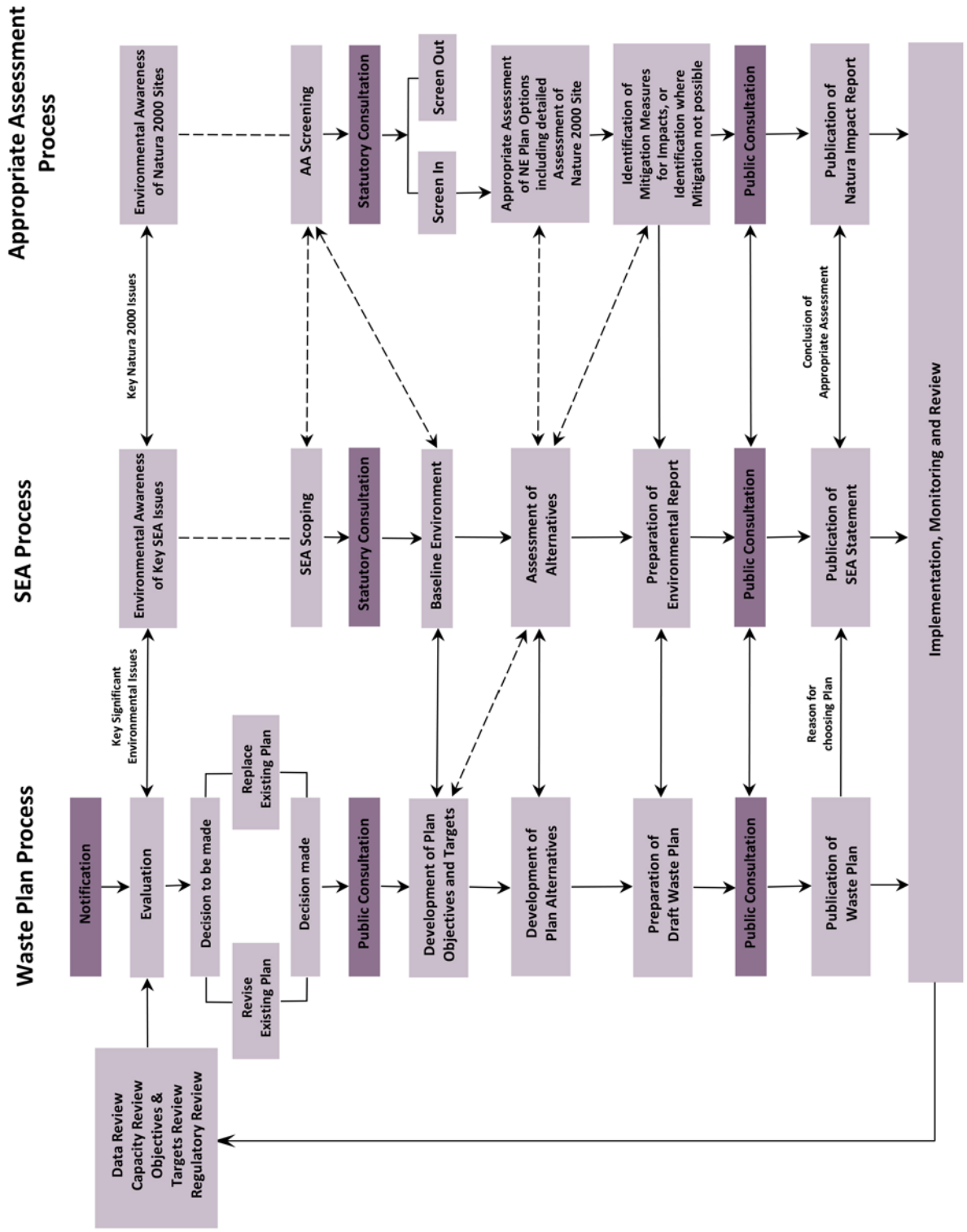
4 https://www.agriculture.gov.ie/foodwise2025/

5 https://www.dccae.gov.ie/documents/Draft%20Bioenergy%20Plan.compressed.pdf

6 https://www.agriculture.gov.ie/forestservice/publicconsultation/planforforestsfreshwaterpearlmusselinireland/

7 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32001L0042&from=EN

**Figure 1.3:** Flowchart of the Plan, SEA and Appropriate Assessment (AA) processes (adapted from Southern RWMP)



This good practice note assumes that SEA is required for a plan, in accordance with Annex 1 of the SEA Directive and Schedule 1 of S.I. No. 435. The Environmental Protection Agency (EPA) can give further advice on the 'screening' process to determine if SEA is required[8].

It focuses on the preparation of the Environmental Report, and is structured broadly in the order in which information would be presented in an Environmental Report. After an initial discussion of good practice SEA principles/rules based on SEA effectiveness studies, it discusses the following:



To date, relatively few SEAs have been carried out for forestry strategies/plans. This report is based on a review of several SEAs for forestry and other sectors, both in Ireland and worldwide. The reference list at the end of this guidance note provides web-links to those SEAs that are cited in this report. Where possible, good practice examples from Ireland or nearby countries have been used; however, in some cases, to illustrate a good practice approach, examples from further afield have had to be used.

8 http://www.epa.ie/monitoringassessment/assessment/sea/process/

# 2. GENERAL SEA PRINCIPLES

**Key points:**

- SEA should lead to changes to the strategy that reduce the strategy's environmental impacts and make it more sustainable
- The SEA process should start early in the strategy development process and be integrated throughout the process.

This report is not a stand-alone note: rather it supplements other EPA guidance on SEA[9], including the EPA's SEA Pack[10] and SEA Process Checklist[11] and EPA guidance on alternatives[12], integrating climate change in SEA[13], biodiversity[14] and the use of GIS in SEA[15].

## Strategic environmental assessment requirements

Table 2.1 summarises the legal requirements for SEA. The main requirements are preparation of an Environmental Report, consultation at two stages (Scoping and draft strategy/ Environmental Report), taking the Environmental Report and consultation comments into account in decision-making, provision of information on the decision, and monitoring of the plan's actual impacts (note that, although the Directive uses the term 'plans and programmes', this can include strategies).

**Table 2.1:** SEA Directive requirements and where they are discussed in this report

| SEA Directive requirement | Discussed in section: |
|---|---|
| **Preparing an Environmental Report** in which the likely significant effects on the environment of implementing the plan, and reasonable alternatives taking into account the objectives and geographical scope of the plan, are identified, described and evaluated. The following information needs to be provided (as set out in Article 5 and Annex I): | |
| a) An outline of the contents, main objectives of the plan, | 5 |
| and relationship with other relevant plans and programmes; | 6 |
| b) The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan; | 7 |
| c) The environmental characteristics of areas likely to be significantly affected; | 8 |
| d) Any existing environmental problems which are relevant to the plan including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC; | 9 |
| e) The environmental protection objectives, established at international, Community or national level, which are relevant to the plan and the way those objectives and any environmental considerations have been taken into account during its preparation; | 6 |

9 http://www.epa.ie/monitoringassessment/assessment/sea/resources/
10 www.epa.ie/pubs/advice/ea/seapack.html
11 www.epa.ie/pubs/advice/ea/seaprocesschecklist.html
12 www.epa.ie/pubs/advice/ea/developingandassessingalternativesinsea.html
13 www.epa.ie/pubs/advice/ea/integratingclimatechangeintoseainireland.html
14 http://www.epa.ie/pubs/reports/research/biodiversity/strive106ibiamanual.html
15 http://www.epa.ie/pubs/advice/ea/giseamanual.html

**Table 2.1:** (contd)

| SEA Directive requirement | Discussed in section: |
|---|---|
| f) The likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors. (These effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, and positive and negative effects); | 11 |
| g) The measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse effects on the environment of implementing the plan; | 12 |
| h) An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information; | 11 |
| i) a description of measures envisaged concerning monitoring in accordance with Article 10; | 13 |
| j) a non-technical summary of the information provided under the above headings. | 14 |
| The report must include the information that may reasonably be required taking into account current knowledge and methods of assessment, the contents and level of detail in the plan, its stage in the decision-making process and the extent to which certain matters are more appropriately assessed at different levels in that process to avoid duplication of the assessment (Article 5.2). | |
| **Consulting:**<br>◢ authorities with environmental responsibilities, when deciding on the scope and level of detail of the information which must be included in the Environmental Report (Article 5.4)<br>◢ authorities with environmental responsibilities and the public, to give them an early and effective opportunity within appropriate time frames to express their opinion on the draft plan and the accompanying Environmental Report before the adoption of the plan (Articles 6.1 and 6.2)<br>◢ other EU Member States, where the implementation of the plan is likely to have significant effects on the environment in these countries (Article 7). | 3 |
| **Taking the Environmental Report and the results of the consultations into account in decision-making (Article 8).** | |
| **Providing information on the decision:**<br>When the plan is adopted, the public and any countries consulted under Article 7 must be informed and the following made available to those so informed (as set out in Article 9):<br>◢ the plan as adopted<br>◢ a statement summarising how environmental considerations have been integrated into the plan and how the Environmental Report of Article 5, the opinions expressed pursuant to Article 6 and the results of consultations entered into pursuant to Article 7 have been taken into account in accordance with Article 8, and the reasons for choosing the plan as adopted, in the light of the other reasonable alternatives dealt with; and<br>◢ the measures decided concerning monitoring. | 14 |
| **Monitoring** the significant environmental effects of the plan's implementation (Article 10). | 13 |

The International Association for Impact Assessment (IAIA) has established a set of SEA performance criteria, shown in Table 2.2. This table also includes tips for achieving the criteria, based on studies on SEA effectiveness and efficiency, including the 2012 study of SEA effectiveness in Ireland[16], which is currently being reviewed.

**Table 2.2:** The ultimate test: does your SEA fulfil these criteria?

| IAIA (2002) SEA performance criteria[17] | Practical tips for achieving the criteria |
|---|---|
| **SEA is integrated**<br>◢ Ensures an assessment of all strategic decisions relevant for the achievement of sustainable development<br>◢ Addresses the interrelationships of biophysical, social and economic aspects<br>◢ Is tiered to policies in relevant sectors and (transboundary) regions and, where appropriate, to project Environmental Impact Assessment (EIA) and decision making | ◢ Start the SEA early in the plan-making process<br>◢ Integrate the SEA process with the plan-making process<br>◢ Integrate the early, evidence gathering stages of the plan-making and SEA processes |
| **SEA is sustainability led**<br>◢ Facilitates identification of development options and alternative proposals that are more sustainable | ◢ Focus on improving the plan, rather than providing a 'snapshot' of the plan's impacts |
| **SEA is focused**<br>◢ Provides sufficient, reliable and usable information for development planning and decision making<br>◢ Concentrates on key issues of sustainable development<br>◢ Is customised to the characteristics of the decision making process<br>◢ Is cost- and time-effective | ◢ Be spatially specific where possible: The level of detail of the SEA should reflect the level of detail of the plan. Where the plan is spatially specific, the SEA should be too<br>◢ Map key constraints such as designations and areas prone to flooding, to help inform the plan<br>◢ The scope of the SEA should reflect the alternatives being considered<br>◢ Do not be afraid to 'scope out' impacts that are not likely to be significant, as long as good reasons are provided for this |
| **SEA is accountable**<br>◢ Is the responsibility of the leading agencies for the strategic decision to be taken<br>◢ Is carried out with professionalism, rigour, fairness, impartiality and balance<br>◢ Is subject to independent checks and verification<br>◢ Documents and justifies how sustainability issues were taken into account in decision making | ◢ Those undertaking the SEA should provide plan makers with explicit recommendations to which they can respond<br>◢ If the SEA is carried out in-house, consider having a 'critical friend' review it<br>◢ Document changes made to the plan as a result of the SEA process<br>◢ Document how consultation comments on the SEA were taken into account in plan making |

16 http://www.epa.ie/pubs/advice/ea/reviewofeffectivenessofseainireland-mainreport.html

17 International Association of Impact Assessment (2002) Strategic environmental assessment performance criteria, https://www.iaia.org/uploads/pdf/sp1.pdf

**Table 2.2:** contd.

| IAIA (2002) SEA performance criteria | Practical tips for achieving the criteria |
|---|---|
| **SEA is iterative**<br>◢ Ensures availability of the assessment results early enough to influence the decision making process and inspire future planning<br>◢ Provides sufficient information on the actual impacts of implementing a strategic decision, to judge whether this decision should be amended and to provide a basis for future decisions | ◢ Focus on improving the plan, rather than providing a 'snapshot' of the plan's impacts<br>◢ Identify and evaluate impacts with reference to the baseline situation ('how will things be different with than without the plan?') rather than with reference to SEA objectives ('does the plan help to achieve environmental objectives?')<br>◢ Consider the extent to which options and policies will be effectively delivered on the ground, rather than simply whether they say the right things |

## Appropriate Assessment and SEA

Appropriate Assessment is the assessment of a plan's/strategy's or project's impacts on the integrity of Special Protection Areas (SPAs) for birds and Special Areas of Conservation (SACs) for habitats and species ('European' or 'Natura' sites). It involves an initial analysis of whether the strategy or project could have such impacts; if necessary, a more detailed assessment of the 'in combination' impacts of the strategy/project on the interest features of the SPA/SAC; and then, if necessary, consideration of alternatives and compensatory measures. The Department of Culture, Heritage and the Gaeltacht's guidance *'Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities'*[18], and the EPA's guidance on integrating SEA, Appropriate Assessment and project Environmental Impact Assessment[19] give further information.

Clearly, there are many similarities and possible links between SEA and Appropriate Assessment, although they are used in different ways in decision-making. Figure 1.3 (earlier in this report) summarises these links.

**This Good Practice Note shows in green boxes (such as this one) how Appropriate Assessment and SEA can be integrated.**

18 https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2009_AA_Guidance.pdf

19 http://www.epa.ie/pubs/reports/research/biodiversity/strive106ibiamanual.html

# 3. SCOPING

**Key points:**

- Scoping aims to get agreement on the scope and level of detail of the Environmental Report.
- Scoping aims to focus the SEA on key significant issues relevant to the plan. This makes the SEA process more efficient and the Environmental Report more readable

The Scoping stage aims to obtain agreement on what the SEA should and should not cover – what topics, what timescales, what spatial scale and at what level of detail. Some of these scoping decisions may emerge only as the SEA progresses.

The SEA should consider at least those environmental topics listed in the SEA Directive: biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors. It may also cover wider social and economic issues, which are often ignored or poorly addressed in SEAs. If the strategy will have minimal or no impact on an environmental topic – for instance on population – then this topic can be 'scoped out', with an explanation given for why the topic is being scoped out (e.g. Figure 3.1). Otherwise the assumption is that the SEA will cover all of the environmental topics.

**Figure 3.1:** Scoping out (National Hazardous Waste Management Plan).

| | |
|---|---|
| Cultural Heritage including Architectural and Archaeological Heritage | Not considered to be significantly impacted at strategic level, as the Plan will not determine site-specific locations for facilities<br>Would be assessed at the EIA/project stage for individual waste facilities.<br>These environmental aspects have been scoped out. |

The SEA should cover the time period of the forestry strategy, and possibly longer if the strategy will have significant effects beyond its lifespan. The SEA Directive requires an analysis of 'short-, medium- and long-term effects'. Depending on the strategy, short term would be somewhere between 1 and 5 years, medium term between 3 and 20 years, and long term beyond 10 or 20 years. Long term impacts can include the carbon-fixing benefits of woodland, or carbon loss if woodland is felled and not replaced; these impacts could last more than 100 years.

The spatial scale of the SEA should cover the area of the forestry strategy, and any other area that might be affected by the strategy. For instance one local authority's afforestation strategy could affect an adjoining local authority's water levels. A national government's decisions about whether to promote biofuel use could affect the forestry or energy plans of countries far away if these would provide some of the biofuel.

The SEA legislation states that the level of detail of the SEA should take into account…

… current knowledge and methods of assessment

The Environmental Report should reflect current good practice: just because something was adequate for the last round of plan-making does not mean that it is now adequate.

Topics can be 'scoped out' if they are not relevant to the plan, or the plan is unlikely to have significant impacts on that topic. The level of detail of the SEA should correspond to the level of detail of the plan: if the plan includes site-specific policies, then the baseline environmental description, alternatives and impact assessment and proposed mitigation, where necessary, should also be site-specific.

… the contents and level of detail in the plan

… the stage of the plan in the decision-making process

Earlier rounds of appraisal are likely to be less detailed than later rounds

A topic/impact can be 'scoped out' if information about the impact depends on a specific location and the plan is not location-specific, or (at the alternatives assessment stage) if all alternatives/ sites being compared would have similar impacts.

… the extent to which certain matters are more appropriately assessed at different levels in the decision-making process in order to avoid duplication of environmental assessment.

Scoping must be carried out in consultation with the statutory environmental bodies:

- the EPA;
- the Minister for Housing, Planning and Local Government;
- the Minister for Agriculture, Food and the Marine, and the Minister for Communications, Climate Action and Environment, where it appears that the strategy, or modification of the strategy, might have significant effects on fisheries or the marine environment;
- the Minister for Culture, Heritage and the Gaeltacht where it appears that the strategy, or amendment to the strategy, might have significant effects in relation to architectural or archaeological heritage or to nature conservation.

Where the forestry strategy could have significant effects on adjoining planning authorities or in Northern Ireland or other jurisdictions, the relevant authorities there should also be consulted.

At a minimum, early in the strategy-making process, these bodies should be sent a letter notifying them that the forestry strategy is being prepared, providing them with information about the strategy, and requesting their views on the scope and level of detail of the

Environmental Report. The statutory environmental bodies must be given a minimum of four weeks to respond. It is good practice to also have scoping meetings or workshops with the environmental bodies and possibly other groups/individuals.

The views of the statutory environmental bodies do not have to be followed, but it would be wise to consider them carefully, and to provide a good reason(s) in the Environmental Report if they are not followed. Potential legal challenges may be strengthened if the environmental authorities' concerns are not taken into consideration. Table 3.1 shows an example of how the consultation responses and related actions /associated responses can be documented.

**Table 3.1:** Documenting SEA consultation responses (National Forestry Programme)

| Comment ref. | Page of letter | Scoping Report ref. | Comment | Action carried out to address comment |
|---|---|---|---|---|
| Organisation & contact: Northern Ireland Environment Agency (Mark Hammond, SEA Coordinator) | | | | |
| Date received: 09 June 2014 | | | | |
| 1 | 1 | Section 2.5.1 | **Loss of biodiversity**<br>There is the potential for adverse impacts on habitats, water quality and biodiversity, in particular those impacts arising from forest expansion and increased levels of harvesting. | These are scoped into the SEA objectives 1 and 5. |
| 2 | 1 | Sections 3.13.7, 6 and Annex 2 | **Transboundary Impacts**<br>Where the Republic of Ireland has a land border with Northern Ireland, there is the potential for impacts in Northern Ireland, particular where there is a hydrological pathway within a shared International River Basin, where a peat-land mass is cross border or where transient species such as Annex I species (Birds Directive) Hen Harriers and Annex 2 species (Habitats Directive) such as Otter or Marsh Fritillary may have populations in Northern Ireland which migrate or move across political borders.<br><br>NIEA notes that there are no designations illustrated in Northern Ireland in the scoping report. NH would suggest that to facilitate a robust transboundary analysis of environmental impacts that national and International designations in NI are considered. More information may be found at http://www.doeni.gov.uk/niea/ | Transboundary effects in NI and impacts on specific species, habitats and designated sites have been considered. (Section 6.6 of the ER) |
| 3 | 1 | Section 2.5.1 | **Environmental Pollution**<br>The release of nutrients, particularly nitrogen can also cause eutrophication of the marine environment. This is already a recognizes issue within Ireland's estuaries and sea loughs, some of which are identified as sensitive under the Urban Waste Water Treatment Directive. All waters within river basin management plans, including estuaries, coastal waters and marine waters where appropriate should be considered. | Potential pollution, acidification, and sedimentation impacts are identified in Section 6.2 of the ER. Mitigation is proposed in Section 7.2. |
| 4 | 1 | Sections 1.3.3, 5.2 | **Mitigation Measures**<br>NIEA would suggest that to ensure that there are no adverse environmental impacts on Northern Ireland that adequate mitigation and monitoring measures are highlighted in the Environmental Report and built into Forestry Plan. | The SEA process has informed the development of the FP, in particular in the consideration of environmental and biodiversity in the implementation of the measures (see Section 9 of the FP). Additional recommendations for mitigation and monitoring are in Sections 7 and 8 of the ER.<br>Transboundary effects have been considered in the ER (Section 6.6). |

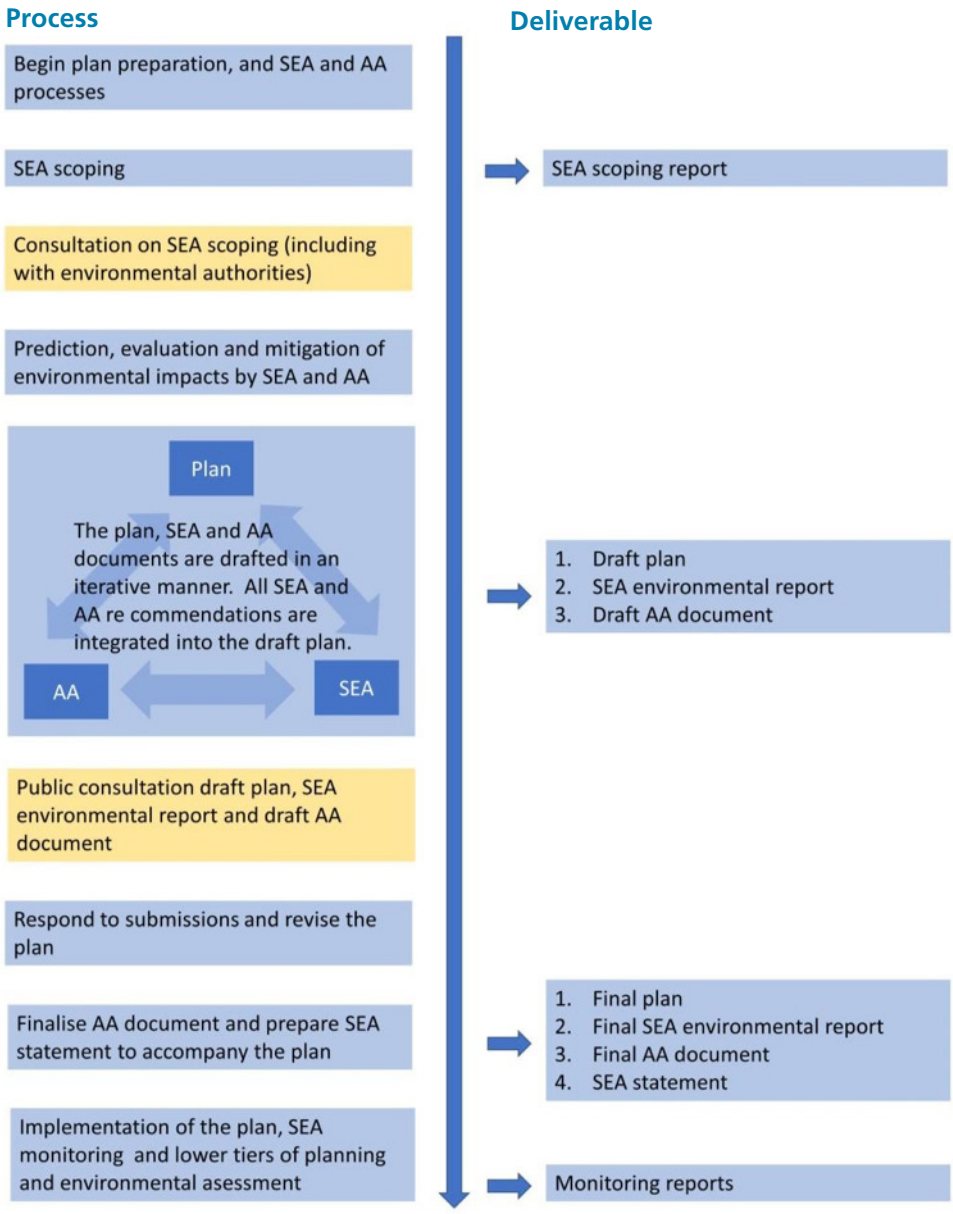
# 4. SETTING THE SCENE

The first chapter of the Environmental Report typically sets the scene for the SEA: it explains who is preparing the strategy; the SEA process and its outputs; how the SEA process has been integrated with the strategy development process; any consultation carried out so far; and any problems encountered.

Figure 4.1 and Figure 1.3 (earlier in this report) show how the SEA process, its links to the strategy-making process and its outputs can be described.

**This section of the Environmental Report can also document the links between the SEA process and the Appropriate Assessment/Habitats Directive Assessment process.**

**Figure 4.1:** Flowchart of the SEA process and outputs/deliverables (based on WAW).



Either in this first chapter or elsewhere, the Environmental Report should also document what consultation has been carried out so far (this will increase as the SEA process evolves), and how the consultation comments have been taken into account (see example in Table 3.1). Consultation must be undertaken with:

- Statutory authorities (see Section 3), at a minimum during the Screening (deciding whether SEA is needed), Scoping, and Environmental Report stages, and possibly also during various middle stages of the SEA. The statutory consultees will be able to identify sources of baseline data, suggest alternatives, and check the adequacy of the impact predictions and mitigation measures.
- The public, at a minimum during the Environmental Report stage, but ideally earlier, if feasible. The public can flag up local concerns and suggest novel alternatives not previously considered.
- Other European Member States, including Northern Ireland, where relevant.

The SEA Directive also requires that the Environmental Report describes *"how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information"*. Difficulties could include limitations of the evidence base and uncertainties and assumptions at the impact prediction state. The latter are discussed in Section 11. Figure 4.2 shows an example of the documentation of difficulties encountered.

**Figure 4.2:** Partial example of difficulties encountered (Grid25).

### 3.10 Difficulties Encountered

#### 3.10.1 Introduction

Annex I (h) of the SEA Directive requires the identification of any difficulties encountered in compiling the information required by the assessment. The following subsections identify the difficulties encountered during the process which had to be overcome.

#### 3.10.2 Mapping of Landscape Constraints

There is currently no published national landscape mapping for Ireland. Landscape Constraints Rating mapping (Section 4.7) has been prepared as part of the Strategic Environmental Constraints Mapping and this provides a basis for the evaluation provided in this SEA Environmental Report.
The Landscape Constraints Rating mapping combines Visual Sensitivity Mapping (as identified from the natural land cover types in the CORINE dataset) and Topographical Mapping (developed from the 50m digital terrain model and catchment watersheds). Each of the landscape constraints were given a value and overlaid upon each other.

#### 3.10.4 Mapping of Development Opportunities

There was no mapping available of areas which provide opportunities for the development of the transmission grid. In order to identify such areas, the Strategic Environmental Constraints Mapping mapped areas that have existing infrastructure in place (e.g. roads, transmission etc.), are predominantly non-natural in their land use (with the exception of urban areas), or are where natural topography may represent opportunities for future transmission system development.

#### 3.10.5 Mapping of Development Potential

There was no composite mapping of potential for transmission development available. An Overall Development Potential Rating[10] map (Section 4.15) comprises part of the Strategic Environmental Constraints Mapping which combines the ecological mapping, the UNESCO Sites and National Parks mapping and the landscape mapping to provide a high level assessment of the main constraints

# 5. OUTLINE OF THE CONTENTS AND MAIN OBJECTIVES OF THE STRATEGY (ANNEX I(A))

This should be a brief section that explains the objectives, contents and scope of the strategy and SEA. Table 5.1 shows an example of how a strategy's scope can be summarised. This section could also present the strategy's vision or aims, and the table of contents of the strategy.

Where appropriate, depending on the type of strategy, this section of the SEA could describe the issues, processes and timing involved in implementing the strategy. For instance, for strategies that specify the location, timing and conditions under which specific forestry operations will take place, this could involve describing the processes involved in site preparation and planting, roading, thinning, harvesting, etc. (Figure 5.1). Some of this may become clear only near the end of the strategy development.

**Table 5.1:** Summary of strategy scope (Southern RWMP)

| Key Facts | |
|---|---|
| **Name of responsible authority** | Limerick City and County councils and Tipperary County Councils are the joint lead authority for the preparation of the Southern Regional Waste Management Plan, on behalf of the city and county councils in the Southern Region. |
| **Title of Plan** | Southern Regional Waste Management Plan |
| **What prompted the Plan?** | The Waste Framework Directive sets out the approach for the sustainable management of waste in the Member States of the European Community and this has been transposed into Irish law by the Waste Management Act 1996 and the European Communities (Waste Directive) Regulations 2011. This legislation requires the preparation of a regional waste management plan for all regions within the state. |
| **Subject of the Plan** | Waste management including prevention, preparing for reuse, collection, recycling, other recovery and disposal (including exports). |
| **Period covered by the Plan and frequency of updates?** | The Plan will be in force for 6 years and will cover the period 2015 – 2021. |
| **Area covered by the Plan** | Southern Waste Region |
| **Purpose of the Plan** | To provide for the sustainable management of waste. |
| **Contact details** | Regional Waste Coordinator, Southern Region Waste Management Office, Limerick County Council, Lissanalta House, Dooradoyle, County Limerick |

**Figure 5.1:** Description of Forestry Operations

Harvesting the existing coniferous forests at X, Y and Z would involve…

Replanting Y and Z with whips of broadleaved trees would involve…

Public access would then be permitted at Y and Z, with rides established and mowed…

# 6. RELATIONSHIP WITH OTHER RELEVANT PLANS AND PROGRAMMES AND ENVIRONMENTAL PROTECTION OBJECTIVES (ANNEX I(A))

**Key points:**

- The aim of this section is to put the strategy into context: what other plans, programmes and objectives affect the strategy, and how are other plans etc. affected by the strategy? What environmental conditions and constraints affect the strategy?
- Focus on key other plans, programmes and environmental objectives, rather than trying to be comprehensive

This section should set the forestry strategy in its wider planning context. It should explain what other plans and environmental objectives affect the strategy in question, and what plans and projects are affected by the strategy in question. Figures 6.1 and 6.2 and Table 6.1 show different ways of describing the strategy's links to other plans and to environmental objectives, using a flowchart, text and table, respectively.

Relevant plans could include:

- Environmental Requirements for Afforestation
- Ireland's Forestry Programme 2014-2020
- Draft Plan for Forests & Freshwater Pearl Mussel in Ireland
- Forests, Products and People: Ireland's forest policy – a renewed vision
- A Strategy for Native Woodlands in Ireland 2016-2020
- Felling and Reforestation Policy
- Native Woodland Scheme Package
- Environmental Enhancement of Forests Scheme
- Aerial Fertilisation Requirements 2015
- Forest Roads Scheme 2014-2020
- Forest Harvesting and the Environment Guidelines
- Land Types for Afforestation
- Forests and Water: Achieving Objectives under Ireland's River Basin Management Plan 2018-2021
- River Basin Management Plan
- CFRAM Flood Risk Management Plans.
- The DAFM's forestry publications web-page[20] is a useful source of information on relevant plans.

20 https://www.agriculture.gov.ie/forestservice/publications

**Figure 6.1:** Flowchart showing the links between a regional forestry strategy and its wider planning context (Scotland).

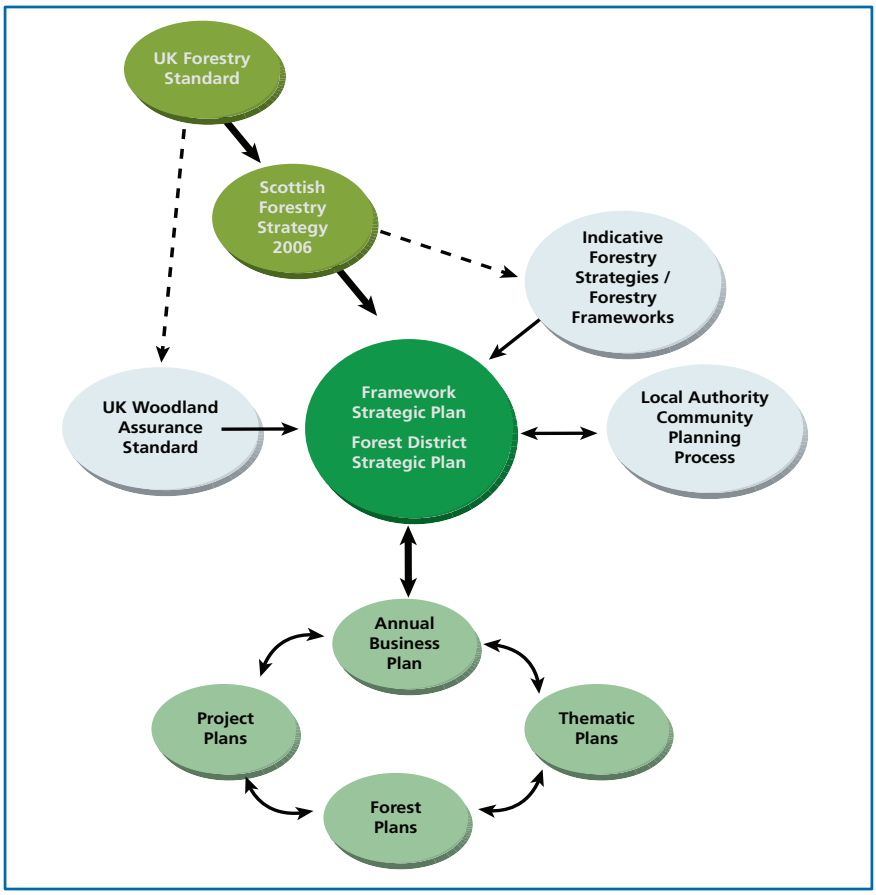



**Figure 6.2:** Description of an environmental objective's influence on a strategy (FPR)

Climate change mitigation

Climate change mitigation policy at the national level is set out in Ireland National Climate Change Strategy 2007-2012[8]. It recognises the role that forests play in climate change mitigation as well as the sector's role in the provision of renewable energy. More recently the National Economic and Social Council publication *Towards a New National Climate Change Policy*[9] outlines the role of the forest sector in climate change mitigation as encompassing three main areas:

1. **net sequestration** or uptake of atmospheric carbon, through avoidance of deforestation, extending forest cover and enhancing carbon uptake in existing forests, and through related measures,
2. **replacement of fossil fue**l by biomass from forests and other sources (provided the wood comes from sustainably managed forest and preferably from forests within the international accounting system), and
3. **materials substitution** using wood products in construction and other end uses, in replacement of more energy intensive materials such as concrete, steel, aluminium and plastics with the benefits of reduced emissions from manufacture and placing carbon in storage.

All three areas are extensively addressed in *Forests, Products and People* and form the basis of a number of recommendations. In this context, the largest element of the forest sector's mitigation role currently relates primarily to afforestation – the creation of new forest. Forests in Ireland are a significant sink of greenhouse gases[10], removing (net of harvest) in excess of 4 million tonnes of carbon dioxide annually, or about 6% of total greenhouse gas emissions (National Inventory Report to UNFCCC). *Forests, Products and People* envisages a state supported afforestation programme increasing to 10,000 ha per annum and then 15,000 ha per annum by 2015, to be sustained at that level up to 2045, to reach a forest cover of 18% of the land area by that date, all subject to the availability of resources including the availability of suitable land for afforestation.

**Table 6.1:** Summary of the contents of key policies and environmental objectives influencing a strategy (WAW).

| | | | • The review and preparation of the second cycle (2018 – 2021) | | |
|---|---|---|---|---|---|
| **National/Regional** | | | | | |
| **Plan/Programme** | **Highest Level Aim/ Purpose/ Objective** | **Lower level relevant objectives , actions etc.** | **Relevant legislation** | **Relevance to the Operational Programme** |
| Infrastructure and Capital Investment 2012-16: Medium Term Exchequer Framework | • Reviews infrastructure and capital spending over a medium timeframe to ensure investment is made in the best areas<br>• Identifies gaps in existing infrastructure that require addressing to aid economic recovery, social cohesion and environmental sustainability | The approach identifies four main components of the investment strategy as follows:<br>• Economic infrastructure – encompassing transport networks, energy provision and telecommunications capacity<br>• Investment in the productive sector and human capital – such as direct supports for enterprise development; science, technology and innovation advancement; supports for tourism, agriculture, fisheries and forestry; and capital investment in education infrastructure<br>• Environmental infrastructure – including our waste and water systems and investment for environmental sustainability<br>• Critical social investment – such as the health service and social housing programmes | not applicable | Implementation of the Programme to cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management |
| Sustainable Development – A Strategy for Ireland (1997) | • Provides an analysis and a strategic framework for sustainable development in Ireland<br>• Identifies the approaches required to support sustainable development | not applicable | not applicable | Implementation of the Programme to cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management |
| Wildlife Act of 1976<br><br>Wildlife (Amendment) Act, 2000 | • The act provides protection and conservation of wild flora and fauna | • Provides protection for certain species, their habitats and important ecosystems<br>• Give statutory protection to NHAs<br>• Enhances wildlife species and their habitats<br>• Includes more species for protection | not applicable | Implementation of the Programme is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations |
| Actions for Biodiversity 2011-2016 Ireland's National Biodiversity Plan, 2011 | • Sets out strategic objectives, targets and actions to conserve and restore Ireland's biodiversity and to prevent and reduce the loss of biodiversity in Ireland and globally | • To mainstream biodiversity in the decision making process across all sectors<br>• To substantially strengthen the knowledge base for conservation, management and sustainable use of biodiversity<br>• To increase awareness and appreciation of biodiversity and ecosystems services<br>• To conserve and restore biodiversity and ecosystem services in the wider countryside<br>• To conserve and restore biodiversity and ecosystem services in the marine environment<br>• To expand and improve on the management of protected areas and legally protected species<br>• To substantially strengthen the effectiveness of international governance for biodiversity and | not applicable | Implementation of the Programme to cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management |

# 7. RELEVANT ASPECTS OF THE CURRENT STATE OF THE ENVIRONMENT AND THE LIKELY EVOLUTION THEREOF WITHOUT IMPLEMENTATION OF THE STRATEGY (ANNEX I(B))

**Key points:**

- The baseline description should discuss the likely future without the strategy as well as current conditions
- Topics can be 'scoped out' if they are not relevant to the strategy, provided that an explanation is given of why they are scoped out: see Section 3
- Full use should be made of information that would anyway be gathered as part of the strategy development process.

## a. Current state of the environment (Annex I(b))

The current state of the environment should be described according to the agreed scope (see Section 3). The description can be in the form of text, maps, tables and graphs (Figure 7.1). The indicators of the Irish National Forest Standard[21] can be useful in this section, although not all of them will be relevant for all forestry SEAs, and others, such as cultural heritage, may need to be added.

Sources of baseline information about forestry and its impacts in Ireland include (but should not be limited to):

- COFORD Forestry 2030 (http://www.coford.ie/publications/forestry2030/)
- Department of Agriculture, Food and the Marine forestry publications (www.agriculture.gov.ie/forestservice/publications/), in particular those on Forest Statistics and Mapping www.agriculture.gov.ie/forestservice/forestservicegeneralinformation/foreststatisticsandmapping/)
- EPA environmental indicator reports (www.epa.ie/pubs/reports/indicators/)
- River Basin Management Plan and assessments (https://www.housing.gov.ie/sites/default/files/publications/files/rbmp_report_english_web_version_final_0.pdf and www.catchments.ie)
- Environmental Reports/SEAs for other plans in and near the forestry strategy area
- Environmental Impact Statements for significant projects in the geographical scope of the strategy
- the CORINE database (which can be viewed here under 'Land and Soil' https://gis.epa.ie/EPAMaps/).

21 http://www.agriculture.gov.ie/forestservice/publications/

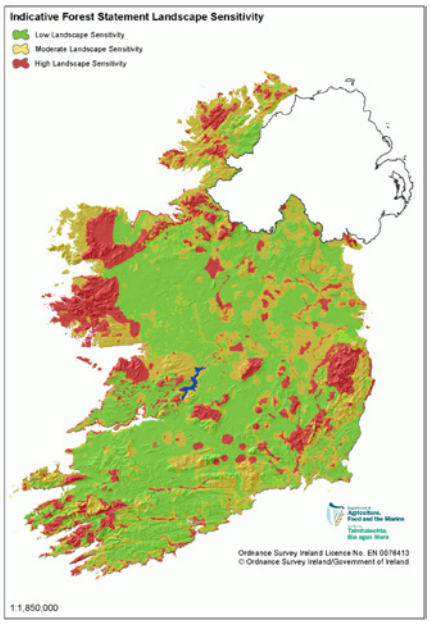
**Figure 7.1:** Presenting the environmental baseline: examples

**Water**

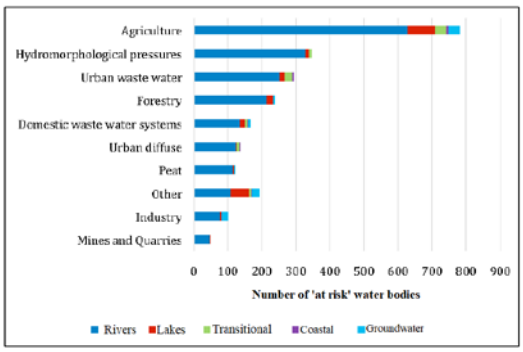
Strengths and Opportunities

- River monitoring in Ireland is carried out routinely by the EPA against Water Framework Directive (WFD) standards.
- The water quality compares favourably with that of other EU countries (typically ranking in the top third of the 30+ assessed), with currently 71% of rivers, 46.6% of lakes, 46% of transitional and coastal waters and 85.6% of the area of groundwater aquifers being at high or good status (EPA, 2012a).
- Measures to reduce pollution have been successfully implemented through the Water Services Investment Programme, the Nitrates Action Programme and River Basin Management Plans.
- Intact peatlands act as effective water stores to mitigate against flooding in times of high rainfall.

(i) Text (NFP)




(ii) Map (NFP)




(iii) Graph (Mussels)

## b. Likely evolution without the strategy (Annex I(b))

The SEA Directive specifies that the baseline description should also include "the likely evolution [of the current state of the environment] without implementation of the [strategy]". For new forestry strategies, this will be a 'business as usual' scenario of other strategies still being in place. For revisions to existing forest strategies, it means a continuation of the existing strategy into the future.

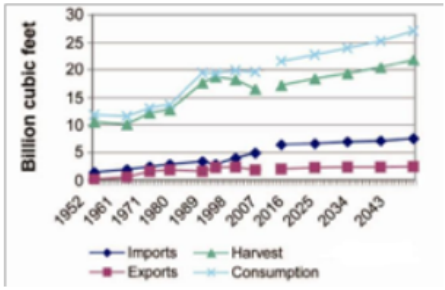
Typically, it means looking forward for the length of time of the new strategy (say 20 years). The 'business as usual' situation in 20 years may be quite different from the current situation; for instance, air pollution levels may have fallen as a result of tightening European legislation, but biodiversity may have deteriorated.

The strategy's environmental impacts (see Section 11) will be the difference between the future 'with strategy' and 'without strategy' scenario. Figure 7.2 shows two different ways of describing the likely evolution without the strategy (table and graph format).

**Figure 7.2:** Likely evolution (of the current state of the environment) without the strategy.

(i) Nitrates

| Key Issue | Likely Evolution in the Absence of the NAP |
|---|---|
| Biodiversity, Flora and Fauna | Without the NAP, the pressure on aquatic flora, fauna and habitats would likely continue with key drivers such as fewer controls on agricultural run-off, setback distances from water courses, slurry/ silage storage etc., as well as land use changes and intensification of agriculture through initiatives such as Food Wise 2025. The latter could lead to habitat loss and/ or fragmentation. In addition, there are changes expected to occur through climate change which may alter species and habitat ranges, with potential for range expansion for some invasive alien species which are an increasing concern. In the absence of the NAP, measures to address some of these pressures would not be coordinated or focussed at the most sensitive habitats and species leading to permanent loss of key species such as the freshwater pearl mussel for example. |
| Population and Human Health | The population of Ireland has been predicted to grow up to 5.3 million over the period 2016-2026, an annual average population growth rate of up to 1%. The draft National Planning Framework also projects that Ireland will be home to an additional one million people by 2040. These predicted population increases will increase pressure on land use, water and transport services and waste services. In the absence of the NAP, this increased pressure (in terms of population and food supply) will not be accounted for in terms of integration with evolving policy such as the National Planning Framework, giving rise to pressure on existing infrastructure and inadequate provision for future changes. |
| Soils and Land Use | In the absence of the NAP, soil and land use would continue to exist in much the same pattern however run-off from agriculture could impact water e.g. through increased nitrogen migration in well-drained soils, with water-logged soils leading to phosphate run-off to surface and groundwaters. The absence of controls on setback distances from watercourses in relation to agricultural activities could lead to damage to riparian zones and greater levels of poaching by livestock. There is currently little or no legislation relating directly to soils and soil protection. |




(ii) United States

# 8. ENVIRONMENTAL CHARACTERISTICS OF AREAS LIKELY TO BE SIGNIFICANTLY AFFECTED (ANNEX I(C))

**Key points:**

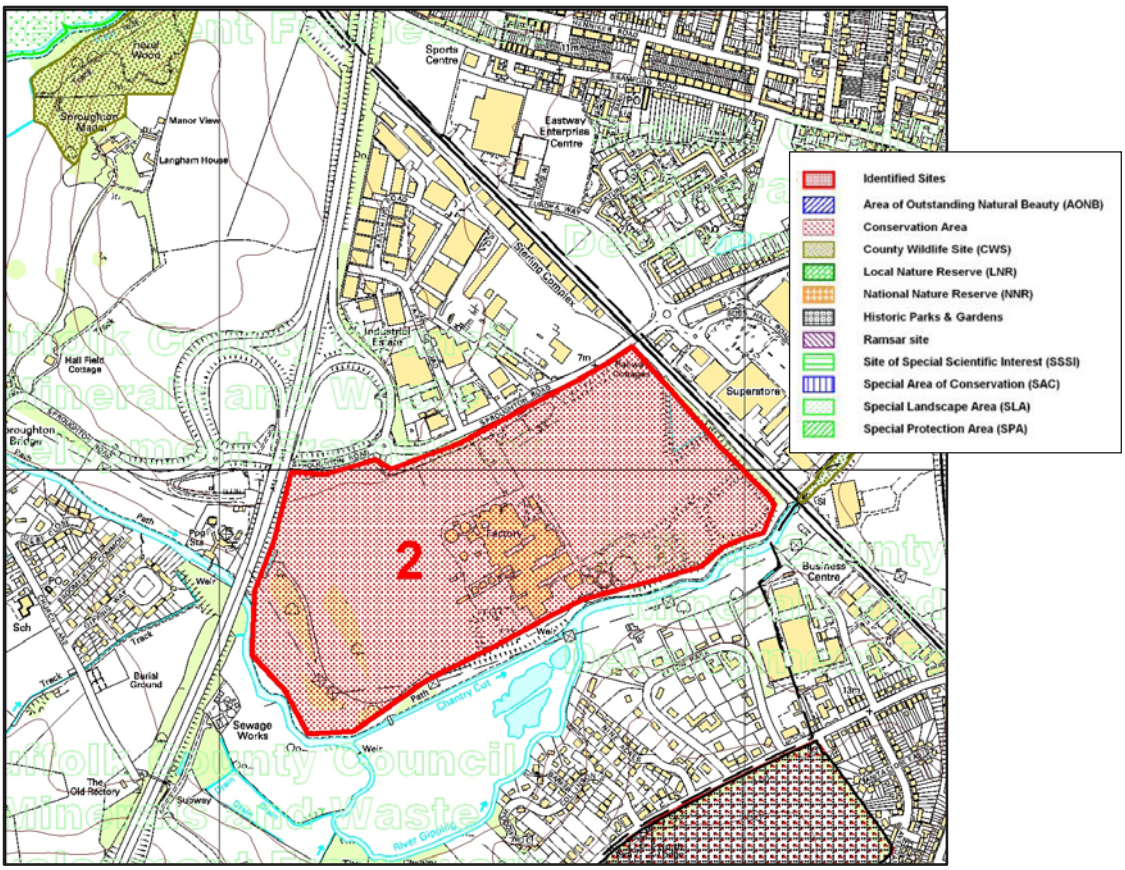
- The level of detail of the SEA should correspond to the level of detail of the strategy
- Overlay maps are particularly useful for site-level assessments.

*"Areas likely to be significantly affected"* are those that will be harvested, thinned, planted or otherwise significantly affected by forestry operations. If the strategy includes site-specific policies, then the baseline environmental description should also be site-specific. Figure 8.1 shows how a site-specific baseline can be summarised. Figure 8.2 shows an example of an overlay map of constraints. This is for a site proposed for waste management, but similar constraints could affect a forestry site.

**Figure 8.1:** Summary form for sites (hypothetical example)

| | |
|---|---|
| Name of site: Bonny Down |  |
| Location of site: xxx | |
| Size: 67 hectares | |
| Ownership: F. Smith | |
| Biodiversity, flora, fauna | Nearest nature conservation site is 0.6km from the site. The xxx Special Area of Conservation is designated for its cladium fens. These are sensitive to changes in water levels: this may constrain the site's potential for intensive afforestation. |
| Soils and geology | Most of the site is deep peat with very poor nutrient status. The site is a plateau with steep slopes. |
| Geological and hydrological | Three streams cross the site. Water quality is good. Water levels fall in the summer. No significant floodplain due to steep slopes. |
| Human health / recreation | Currently not accessible to the public. |
| etc… | |

**Figure 8.2:** Example of constraints map to show site-specific environmental conditions (Suffolk)




**This chapter of the SEA report should also document the location of any Special Protection Areas and Special Areas of Conservation that might be affected by the strategy, why they have been designated and the kinds of impacts that they are vulnerable to, as a link to the Appropriate Assessment/Habitats Directive Assessment process.**

# 9. EXISTING ENVIRONMENTAL PROBLEMS (ANNEX I(D))

The SEA Directive requires a description of *"existing environmental problems which are relevant to the [strategy] including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC"*. This last part refers to Special Protection Areas for birds and Special Areas of Conservation for habitats and species. Another example of *"areas of a particular environmental importance"*, of particular relevance to forestry, are high-status water bodies protected under the Water Framework Directive (2000/60/EC).

Existing problems should ideally be identified in several ways and cross-checked for consistency:

- The policy context of Section 6: what environmental targets are not being met and what environmental standards are not being achieved?
- The environmental context of Sections 7 and 8: what environmental aspects are problematic in and near the strategy area?
- Discussions with the planning authority and statutory consultees.

Examples of environmental problems include protected species with poor conservation status; water quality not meeting Water Framework Directive objectives; climate change; invasive species; erosion; and overly-large deer populations.

Once the problems are identified, it would be worthwhile considering why they emerged and what is contributing to them. This can help to inform the strategy, so that it can help to avoid the causes of the problems. Table 9.1 and Figure 9.1 show how problems can be described and documented. Figure 9.2 'tells the story' of how existing problems were identified for a forestry strategy.

**This chapter of the SEA report should also document any problems associated with Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) that could be affected by the strategy, for instance SPAs/SACs whose integrity is already negatively affected by existing forestry operations.**

**Table 9.1:** Documenting existing environmental problems: table format.

| Problem | Evidence of the problem | Causes of the problem |
|---|---|---|
| Floating river vegetation has declined significantly over the last 20 years. | Survey X in 2018 by organisation Y | National Parks and Wildlife Service (2013) *'The Status of EU Protected Habitats and Species in Ireland'* suggests that this is due to eutrophication, fertilisation and afforestation. |
| Water quality in the district is not expected to achieve Water Framework Directive standards by 2021. | Z River Basin Management Plan | … |

**Figure 9.1:** Documenting existing environmental problems: text format (Mussels).

**Existing Environmental Pressures and Problems for Biodiversity, Flora & Fauna**

There are numerous threats and pressures on Biodiversity, Flora and Fauna in the Irish environment. Among the most significant of these are agriculture and the development of built land. The intensification of agriculture and forestry over the recent decades has resulted in an increase in excess nutrients in watercourses around the country. Furthermore, the increasing population and underinvestment in waste water treatment systems means that many are discharging wastewater that has not been fully treated into watercourses. The intensification of land drainage, along with excessive stocking densities (causing poaching) has resulted high rates of siltation. The intensive growth of monoculture crops in both agriculture and forestry has reduced structural habitat diversity and food diversity, thereby negatively impacting local biodiversity in general. The reclamation of wetlands for agriculture or development is also having localised negative impacts on flora and fauna. Although built land is not one of the largest landcover types, it's growth has accelerated in recent years (with urban sprawl, road construction, etc.), which increases the threat caused by it to biodiversity.

**Figure 9.2:** 'Telling the story' of the identification of existing environmental problems (Vietnam).

"The SEA started with consultation to identifying the strategic environmental or sustainability-related issues which are relevant for the forestry sector both on national level and in the target provinces. The SEA team prepared a preliminary list of key environmental issues for the forest management in Viet Nam. This draft list was revised and prioritized during the 1st multi-stakeholder workshop which suggested to focus the SEA on the following environmental and socio-economic priority concerns:

- Reduction of water retention capacity of forests (important for floods, droughts)
- Biodiversity (habitat loss, corridor fragmentation & forest degradation
- Loss of livelihood (access to land & resources, rights to exercise community management)
- Protection against extreme climatic events: cyclones, heat waves, protection against forest fires
- Forest carbon retention (increase or reduction)
- Job creation

During consultations with the World Bank on 3 June, 2010 it was suggested to expand the SEA focus by addressing also species loss directly caused by illegal hunting; protection of cultural diversity, lifestyles or ethnic minorities and trans-boundary aspects of the Vietnamese forestry sector. The consultation with the DOF briefly reviewed the proposed list of the proposed environmental and socio-economic priorities and suggested to rephrase the issue 'Forest carbon storage capacity' into 'Forest carbon stock'.

The consultant agreed to accommodate these suggestions and addressed the following issues in this SEA:

- Biodiversity: changes in habitats, ecosystem connectivity, and diversity of endemic fauna & flora;
- Livelihoods related for forest land: access to resources and land, job creation, and well being of ethnic minorities;
- Water retention capacity of forests and protection against extreme climatic events (including risks during floods and droughts);
- Trans-boundary trade in timber and wildlife; and
- Forest carbon stock."

# 10. OUTLINE OF THE REASONS FOR SELECTING THE ALTERNATIVES DEALT WITH (ANNEX I(H))

**Key points:**

- The consideration of alternatives is the 'heart' of the SEA process.
- Poor assessment and evaluation of alternatives has led to successful legal challenges.
- The Environmental Report should present a clear 'storyline' for why, of all the possible ways that the final strategy could look, it looks the way that it does.
- The decision-making authority can choose any final option, even if the SEA shows it to be problematic, but it must clearly explain the reasons for its choice.

Article 5 of the SEA Directive requires the Environmental Report to identify, describe and evaluate "the likely significant effects on the environment of implementing the [strategy], and reasonable alternatives taking into account the objectives and geographical scope of the plan or programme". Annex I of the Directive requires the report to provide "an outline of the reasons for selecting the alternatives dealt with". The EPA has published guidance on 'Developing and Assessing Alternatives in SEA'[22]. This note is consistent with that guidance.

The identification of 'reasonable alternatives' (also called options or scenarios) and explanation of the reasons for selecting the preferred alternative is the aspect of SEA that has been subject to the most legal challenges to date. Simply comparing the proposed strategy with a 'no strategy' or 'business as usual' alternative is unlikely to be Directive compliant: a clear storyline is needed of how the strategy has been developed and how choices have been made. The SEA informs the decision-making process but does not make the decision.

## Identifying reasonable alternatives

The alternatives that a strategy can consider will depend on the objectives and scale/scope of the strategy. More strategic plans such as a national forestry strategy will have alternatives nearer the top of the 'alternatives hierarchy' (see Figure 10.1), whereas more detailed operational programmes will have alternatives nearer the bottom. Project environmental impact assessments normally consider timing and implementation and, possibly, location.

Good analyses of alternatives often start by considering higher-level options, choosing one of these, then moving to the relevant lower-level options, choosing one, and so on. For instance, planners could first consider whether to promote small- or large-scale forestry, indigenous species or those tree species that will produce the greatest timber yield or combinations of these, etc.; then consider which sites should be promoted for forestry; and then proceed to consider whether to set conditions related to timing, management measures, etc. Figure 10.2 lists some alternatives considered in past forestry SEAs.

Alternatives could also be considered for how to deal with existing problems identified at the Scoping stage, for instance different approaches to:

22 http://www.epa.ie/pubs/advice/ea/SEA-Alternatives-157-Published_web.pdf

- dealing with the threat of invasive species,
- dealing with risks of disease,
- responding to the likely increase in droughts, floods and extreme weather events caused by climate change,
- reducing runoff from forestry sites impacting on water quality.

**Figure 10.1:** 'Hierarchy of alternatives' for forestry activities (Liberia, Guinea, Scotland).

| | Examples |
|---|---|
| **Need or demand:** Whether more forest cover is needed; opportunity cost of forests. | ◢ Taxes and incentives<br>◢ reducing the need for timber, biofuel etc. through provision of training, support, coordination<br>◢ Regulations (e.g. conditions under which afforestation is permitted). |
| **Mode or process:** This involves consideration of different strategic options afforestation. | ◢ Support large v. small scale; coniferous v. deciduous, indigenous species/timber wood etc.<br>◢ Promote biofuel / don't promote.<br>◢ Whether / how to link to other activities (e.g. subsidies for making woodland accessible)<br>◢ Support for co-ownership or co-management of woodland. |
| **Location:** Where the forestry operations occur will affect the plan's impact. Plans can specify locations for afforestation etc., or provide guidance or criteria for how such locations can be chosen.. | ◢ Focus on least wooded areas<br>◢ Focus on areas where benefits from new woodland are likely to be greatest<br>◢ Choice of site A, B or C |
| **Timing and implementation:** These alternatives can include different timetables (including phasing), and different requirements for implementation such as further studies or mitigation requirements | ◢ Timing of planting, felling etc.<br>◢ Whether to permit livestock grazing<br>◢ Location and control of roads, type of erosion control measures etc.<br>◢ Involvement of local residents<br>◢ Forest Schools, nature centres, other educational opportunities<br>◢ Public access, provision of rides etc. |

**Figure 10.2:** Alternatives considered in previous forestry SEAs (FPR, Guinea, Liberia, NFP, Papua NG, Scotland, United States, US NW, Vietnam).

| | |
|---|---|
| • | No action |
| • | Restore sensitive ecosystems (e.g. meadow) |
| • | Focus on preservation of ancient woodlands |
| • | Manage to protect headwaters |
| • | Restrict built development |
| • | Minimal management (no timber production, prescribed fire etc.) |
| • | Manage to provide opportunities for walking, cycling and recreation |
| • | Manage for optimum water quality and resources |
| • | Manage for predetermined timber harvest outputs |
| • | Manage for maximum timber output |
| • | Stop timber production |
| • | Different scales of afforestation (hectares per year) |
| • | Optimise recreational facilities |
| • | Balance between recreation and biodiversity conservation |
| • | Manage to optimize habitat for wide variety of game and non-game species |
| • | Manage to maximise local economic benefits |
| • | Different combinations of forestry activities to fund (e.g. afforestation, 'neighbourwoods', forest roads, innovative technology) |
| • | Prohibit lease of mineral/oil/gas excavation/drilling rights |
| • | Use prescribed fire to manage woodland |
| • | Use herbicides to control vegetation |
| • | Use mechanized machinery to control vegetation |
| • | Use human labour to control vegetation |
| • | Limit/ban use of off-road vehicles |
| • | Permit use of off-road vehicles |
| • | Provide more roads/cycle trails |
| • | No/reduced livestock grazing |
| • | Manage for maximum livestock grazing outputs |
| • | Provide guidelines re. nature management |
| • | Different management in different forest areas |
| • | Configuration of harvest blocks, e.g. clustered v. systematic |

Generally, strategy-wide alternatives only (e.g. 'a more economic strategy', 'a more social strategy') are unlikely to be legally compliant as they do not reflect the decisions that are actually made as part of the strategy development process (RTPI, 2018). Making up alternatives in order to make the strategy look better is also unlikely to be legally compliant.

However alternatives do not need to be considered for every strategy issue. A 'policy versus no policy' comparison of alternatives is necessary only where 'no policy' is under active consideration by the planning team. Where only one alternative is reasonable, then looking at other alternatives is not 'reasonable'. Going against national government policy is also generally not 'reasonable'. Relevant approaches should be set in the context of government policy and aligned with the relevant policy.

Different sub-alternatives could be clustered into 'themes' that can be assessed and compared in SEA. Figure 10.3 shows an example of this.

**Figure 10.3:** Example of alternative 'themes' composed of sub-components (Scotland).

**Scenario 1: Natural and cultural heritage**

Under this scenario there could be an emphasis on:
- Enhancement of existing woodland and forestry to maximise landscape and biodiversity value;
- Major native woodland expansion
- Management and restoration of historic woodlands including ancient woodland, coppice and wood pasture
- Management of historic sites and landscapes
- Expansion of forest habitat networks
- Enhancement of the water environment
- Conservation of important non-woodland habitats
- Improvements in access, interpretation and awareness
- Green jobs

**Scenario 2: Community and local economic development.**

Under this scenario there could be an emphasis on:
- Woodlands in and around communities (building on the successful WIAT initiative), particularly in areas of highest Multiple Deprivation, Health Deprivation and Income deprivation(SE indices)
- Enhancement of degraded, post-industrial and urban landscapes
- Increased community involvement in forestry and woodland planning and management
- Increased community ownership of forestry and woodland
- Increased local employment in the forestry and woodland sector
- Minimising transport impacts from timber transport
- Improvements in access, interpretation and awareness
- Meeting minimum environmental standards
- Green jobs

**Scenario 3: Timber production.**

Under this scenario there could be an emphasis on:
- Retaining and expanding the overall area of productive forestry.
- Enhancing timber production from broadleaves.
- Promoting development of the timber sector (processing etc) at a national level
- Meeting minimum environmental standards
- Enhancing timber quality
- Green jobs

**Scenario 4: Maximising climate change mitigation and adaptation**

Under this scenario there would be an emphasis on:
- Maximising woodland and forestry's contribution to carbon sequestration
- Maximising woodland and forestry's contribution to biomass-based renewable energy
- Increasing the role of woodland and forestry in mitigating flood events
- Increasing the role of protective woodland and forestry in maintaining soil and slope stability
- Enabling adaptation of generalist flora and fauna
- Meeting minimum environmental standards

**Scenario 5: Rural diversification.**

Under this scenario there could be an emphasis on:
- least profitable parts of existing agricultural units
- regions with lowest forestry cover compared to the potential
- green jobs

It may also be useful to explain what alternatives were eliminated early on and the reasons why. Figure 10.4 provides an example of this, but would have been improved by a brief statement that explained *why the alternatives were not found to be worth investigating further.*

**Figure 10.4 :** Alternatives eliminated from detailed study (United States).

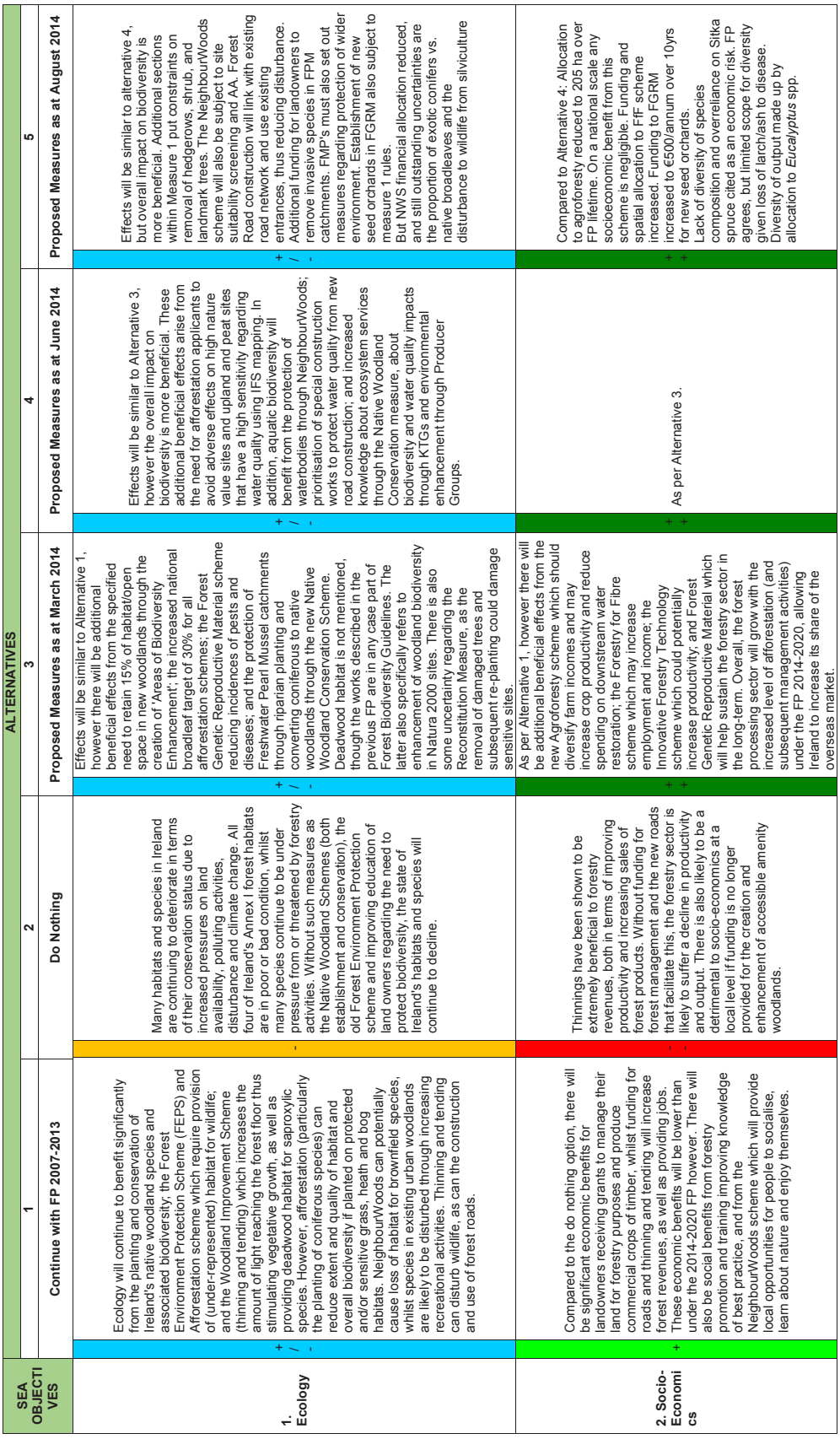
The following alternatives were considered but eliminated from further study once they were found not to meet the purpose and need for action.

- The land management plan development, revision, and amendment provisions of the 2000 planning rule;
- An alternative requiring the land management planning process and resulting plans to be limited to the minimum requirements of NFMA;
- An alternative requiring the responsible official to give more consideration to comments from members of local communities than comments provided by individuals or special interest groups who are not part of the local community;
- An alternative consisting of a highly prescriptive planning rule than set national standards for all aspects of land management plans. This alternative would essentially constitute a national land management plan;
- An alternative planning rule that would only allow timber harvest for restoration purposes;

## Comparing the alternatives

The alternatives are then assessed and compared using a range of quantitative and qualitative environmental criteria. Figure 10.5 shows an example of such a comparison. This example uses an 'SEA framework' of SEA objectives. SEA frameworks are discussed further in Section 11.

**Figure 10.5:** Example of qualitative comparison of the impacts of alternatives (NFP)



## Explaining the choice of alternatives

A key role of the SEA is to present a 'storyline' for the choice of the preferred alternative and to explain how environmental factors were taken into account in the decision-making process. Figure 10.6 shows an example of this. The preferred alternative(s) may then set a framework for identifying and assessing additional, lower levels of alternatives. The final set of preferred alternatives will then progress to the next, more detailed stage of assessment (see Section 11).

**Figure 10.6:** Extract from an explanation of the choice of preferred alternative (NFP).

> Table 5.2 shows to what extent each of the four alternatives deliver or affect ecosystem services. The 'do nothing' Alternative provides significantly fewer ecosystem services than the other alternatives, though provision of food is the obvious exception as previously agricultural land is given over to afforestation. Alternatives 3, 4 and 5 perform similarly and are noticeably better at providing ecosystem services than Alternative 1. Particular benefits arise from the increased target for afforestation and the new measures encouraging agroforesty, forestry for fibre and investing in forest genetic reproductive material.
>
> The option DAFM chose to take forward to public consultation is Alternative 5. This builds on the benefits of Alternative 4 which itself builds on Alternatives 1 and 3. The consultation version of the Draft FP had a strong emphasis on not just protecting biodiversity and water quality but enhancing these important assets. There is a commitment to enhance landscapes, the protection afforded to recorded monuments is set out, and the benefits that forests can and should provide in terms of ecosystem services are discussed. The chosen Alternative also focuses on the need to improve knowledge and understanding of environmental protection, enhancement and legal compliance amongst forest holders.

# 11. LIKELY SIGNIFICANT EFFECTS ON THE ENVIRONMENT (ANNEX I(F))

**Key points:**

- This impact prediction stage should be inextricably linked with the following mitigation stage; mitigation should be considered for any significant negative identified;
- Quantification of many impacts is possible;
- The level of detail of the analysis should be proportional to the level of detail of the strategy;
- The impact assessment should consider not only direct, short-term impacts but also secondary, cumulative, etc. impacts.

This is the stage where the impacts of a draft strategy and its alternatives are identified. It should be intrinsically linked with the following mitigation, stage. Several rounds of impact assessment and mitigation are likely to be needed for a given forestry strategy: for the strategy objectives, broad strategic options (e.g. need/demand, broad rules for forestry operations), more detailed options (e.g. detailed conditions, location), and the draft strategy for consultation.

The SEA Directive requires that the Environmental Report should describe "*the likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage, landscape and their interrelationship…. These effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects*". This requirement has several components:

a) A structure should be set up for assessing the impacts of the strategy.
b) This should either cover all of the topics listed in the SEA Directive (biodiversity etc.) or else 'scope specific topics out' with an explanation of why they are not relevant to the strategy in question (see Section 3).
c) The SEA Directive does not require any particular form of analysis, but quantification of some impacts will usually be possible.
d) The level of detail of the analysis should be proportional to the level of detail of the strategy.
e) The impact assessment should consider not only direct, short-term impacts but also secondary, cumulative etc. impacts.

The SEA should also describe areas of uncertainty. These points are explained further below.

## a. Structure for assessing the impacts of the strategy: the 'SEA framework'

A 'SEA framework' for assessing the impacts of a strategy can comprise a simple list of *topics* (e.g. air quality or human health) that will be considered during the assessment; a series of *indicators* for measuring the impacts that the strategy is likely to have; and/or SEA *objectives*

that state the direction in which the strategy should be aiming. The SEA framework can then be used to assess and compare alternatives for the strategy and sub-components of the strategy:

- for a topic, the SEA asks *"what is the alternative/component's impact on this topic?"*
- for an indicator, it asks *"how will the alternative/component affect this indicator?"*
- for an objective, it asks *"does the alternative/component help to achieve this objective?"*

Any combination of topics, indicators and objectives is acceptable, as long as they help to identify the strategy's impacts and possible mitigation measures. Table 11.1 shows examples of SEA topics, objectives and indicators. The Department of Agriculture, Food and the Marine's *Code of Best Forest Practice*[23] already suggest many of these objectives, and these are shaded in green in Table 11.1.

**Table 11.1:** Examples of SEA objectives and indicators for forestry strategies (Czech Republic, Guinea, Scotland, MER). (Code of Best Forest Practice objectives are shaded in green).

| Topic | Objective | Indicators |
|---|---|---|
| Biodiversity | ◢ Protect and enhance forests and forest ecosystems<br>◢ Protect and enhance biodiversity<br>◢ Protect Special Areas of Conservation, Special Protection Areas and Natural Heritage Areas<br>◢ Ensure forest operations do not damage forests<br>◢ Maintain forest health and vitality through protection against pests and diseases<br>◢ Conserve sustainable populations of native animals and plants in line with the Habitats and Birds Directives<br>◢ Preserve genetic resources in the long term | ◢ Conservation status of Natura 2000 network<br>◢ Conservation status of protected habitats and species<br>◢ Habitat creation, habitat removal, habitat fragmentation<br>◢ Tree species composition<br>◢ Age of the forest<br>◢ Amount of old or dead wood<br>◢ Choice of site-adapted tree species, planting material and nutrients<br>◢ Natural regeneration to maintain genetic diversity<br>◢ Use of pesticides |
| Population and human health | ◢ Identify and develop recreational potential, and carry out forest operations in a manner that is compatible with these activities<br>◢ Ensure forest operations are carried out safely<br>◢ Minimise the impact on communities of offsite forest operations<br>◢ Contribute to the well-being of workers and the local population | ◢ Public access: bridlepaths, footpaths, cycle paths<br>◢ Recreational facilities/opportunities<br>◢ Community ownership / management of woodland<br>◢ 'Volunteer days' on forest land<br>◢ Occupational hazards/risks |
| Soil | ◢ Minimise the off-site impact of forest operations on the environment<br>◢ Reduce acidification of peats and other sensitive habitats/soils<br>◢ Reduce erosion<br>◢ Achieve good soil fertility<br>◢ Use land efficiently | ◢ Nitrogen deposition<br>◢ Erosion, sedimentation<br>◢ Acidification |

23 https://www.agriculture.gov.ie/forestservice/publications/codeofbestforestpractice/

**Table 11.1:** (contd)

| Topic | Objective | Indicators |
|---|---|---|
| Water | ◢ Protect and enhance aquatic zones and water quality<br>◢ Achieve Water Framework Directive objectives<br>◢ Reduce eutrophication and sedimentation<br>◢ Improve catchment hydrology, reduce flooding<br>◢ Minimise the use of pesticides | ◢ Changes to hydrological flows<br>◢ Water quality<br>◢ Flood risk<br>◢ Number of reported water pollution incidents |
| Air / climatic factors | ◢ Achieve Paris Agreement reduction in emissions of greenhouse gases<br>◢ Positive $CO_2$ balance, carbon sequestration<br>◢ Adapt to climate change | ◢ Area of forest cover<br>◢ Mode of transport of timber<br>◢ Carbon sequestration: gains vs. losses<br>◢ Choice of climate change-resilient tree species<br>◢ Area of short rotation coppice<br>◢ Tonnes of biomass produced annually |
| Material assets | ◢ Provide meaningful and productive employment<br>◢ Ensure that forest operations are efficient and cost-effective<br>◢ No competition with food and medicine production<br>◢ Integrate with other land uses, including minerals, agriculture and energy<br>◢ Contribute to local and national prosperity<br>◢ Contribute to renewable energy resources<br>◢ Minimise the use of resources including fuel and wood products<br>◢ Contribute to the viability of rural communities | ◢ Employment in forestry<br>◢ Number of modern apprenticeships<br>◢ Opportunities for rural diversification<br>◢ Value of/revenue from forestry products<br>◢ Value of carbon fixing or cost of carbon release<br>◢ Opportunity costs re. other land uses in the strategy area<br>◢ Effects on land uses outside the strategy area (including other countries)<br>◢ Use of improved nursery stock |
| Cultural heritage | ◢ Identify and protect heritage areas, archaeological sites and artefacts within forest sites<br>◢ Increase understanding and awareness of woodland-related natural and cultural heritage<br>◢ The Heritage Council has also developed heritage objectives for Indicative Forestry Strategies[24] | ◢ Heritage designations<br>◢ Areas of tranquillity<br>◢ Educational facilities/opportunities |
| Landscape | ◢ Maintain and enhance visual amenities (private and public) and landscapes of importance<br>◢ Preserve the countryside as a habitat and for recreation<br>◢ Contribute to scenic value, including distinctiveness and diversity of the landscape | ◢ Quality of historical/cultural landscapes<br>◢ Land use<br>◢ Changes to the landscape |

24 Heritage Council's Heritage Appraisal of Indicative Forestry Strategies: http://oldsitehc.info/fileadmin/user_upload/Publications/Wildlife/HeritageForestStrat.pdf

### b. Scoping out impacts

Where a strategy is very unlikely to have significant impacts on a certain environmental component; or where part of a strategy is very unlikely to have any significant impacts; or where information about the impact depends on a specific location and the strategy is not location-specific; or where all alternatives being compared would have similar impacts, then it makes sense to 'scope out' impacts from that stage of the analysis. Figure 3.1 shows an example of how this can be done.

### c. Quantification of impacts

Many impacts of forestry can be quantified, and should be quantified where reasonably possible. Impacts that have been quantified in previous forestry SEAs (Puerto Rico, US NW, Vietnam) include:

- area of forest cover;
- area of forest planting and harvesting;
- area converted from other uses to forest and vice versa;
- annual timber harvest;
- annual income from forestry products;
- employment in forestry;
- area of nature conservation designation;
- number of habitats/species with poor conservation status;
- $CO_2$ emissions (tonnes and €);
- $CO_2$ absorption (tonnes and €);
- violation of forest protection regulations;
- value (€) of watershed protection in terms of soil protection and regulation of water flow;
- age of forests;
- annual cost of woodland management.

Quantified impacts give a better understanding of the scale (as opposed to just the direction) of change that would result from a strategy. Table 11.2 shows how quantified impact predictions can be presented in a table; they could also be presented using a graph or map.

**Table 11.2:** Example of quantitative/monetary comparison of impacts of alternatives (US NW).

| Alternative | | No-Action | Alt. 1 | Alt. 2 | Alt. 3 | Comments |
|---|---|---|---|---|---|---|
| Annual Costs:[3] | Short-Term | $118 million[4] | $29 million | $19 million | $60 million | Pre-disturbance field survey costs are 60-96% of costs. |
| | Long-Term | $114 million[4] | $17 million | $12 million | $48 million | |
| Projected Acres Managed as Known Sites | | 483,000 acres | 81,000 acres | 61,000 acres | 570,000 acres | Projected for 25 years, Matrix and AMA only |
| Projected Harvest Level[5] (Current declared PSQ: 811) | | 510 MMBF | 760 MMBF | 775 MMBF | 455 MMBF | MMBF = Million Board Feet, annually |
| Employment (Wood Products) | | 4,630 | 6,900 | 7,040 | 4,130 | |
| Employment (Survey Related) | | 2,050 | 500 | 350 | 1,050 | |

Where impacts cannot be quantified, an expert judgment can still often be made about whether the impact will be positive or negative, large or small, or broadly within certain bands. Table 11.3 shows a simple matrix of strategy components versus SEA topics (biodiversity, etc.). Table 11.4 shows a variant of this, with the + / - symbols replaced with 'traffic light' colours.

**Table 11.3:** Impact assessment of plan components/'features' (Mussels).

| Feature | BFF | PHH | LSG | Hyd | AQC | CH | Lnd | MA |
|---|---|---|---|---|---|---|---|---|
| Management Framework | + | + | + | + | 0 | + | + | +/- |
| Proposed Forestry Model | + | + | 0 | + | 0 | 0 | 0 | + |
| Monitoring regime | + | 0 | 0 | + | 0 | 0 | 0 | 0 |
| Training and awareness raising | + | + | 0 | + | 0 | 0 | 0 | 0 |

*Legend: BFF = Biodiversity, Flora and Fauna; PHH = Population and Human Health; LSG = Land, Soils and Geology; Hyd = Hydrology; AQC = Air Quality and Climate; CH = Cultural Heritage; Lnd = Landscape; MA = Material Assets.*

Table 11.4: Impact assessment of plan components/'measures' (NFP).

| FP: Final Version, October 2014 High Level Matrix | | SEA OBJECTIVES | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| | Measures and Schemes | Ecology | Socio-Economics | Health | Soil | Water | Air | Climate | Material Assets | Cultural Heritage | Landscape | GI & ES |
| **Measure 1: Afforestation and Creation of Woodlands** | | | | | | | | | | | | |
| 1a | Afforestation Scheme | +/- | ++ | + | 0 | + | + | ++ | + | +/- | + | + |
| 1b | Native Woodland Establishment Scheme | ++ | + | + | + | ++ | + | + | + | + | + | ++ |
| 1c | Agroforesty Scheme | 0 | 0 | 0 | + | + | + | 0 | + | 0 | + | 0 |
| 1d | Forestry for Fibre Scheme | + | ++ | 0 | +/- | 0 | 0 | ++ | + | 0 | 0 | + |
| **Measure 2: Investments improving the Resilience and Environmental value of Forestry: NeighbourWoods Scheme** | | | | | | | | | | | | |
| 2a | Silvicultural Enhancement of Existing Amenity Forests | +/- | + | + | 0 | + | 0 | 0 | + | 0 | + | ++ |
| 2b | Establishment of New NeighbourWoods | 0 | ++ | ++ | + | ++ | + | ++ | + | +/- | + | ++ |
| 2c | Provision of Recreational Facilities | +/- | ++ | ++ | 0 | 0 | 0 | 0 | + | 0 | 0 | ++ |
| **Measure 3: Investments in Infrastructure: Forest Road Scheme** | | | | | | | | | | | | |
| 3 | Forest Road Scheme | +/- | ++ | 0 | 0 | 0 | +/- | +/- | 0 | +/- | +/- | +/- |
| **Measure 4: Prevention and Restoration of Damage to Forests: Reconstitution Scheme** | | | | | | | | | | | | |
| 4 | Reconstitution Scheme | +/- | + | 0 | 0 | 0 | 0 | 0 | 0 | +/- | + | + |
| **Measure 5: Investments improving the Resilience and Environmental value of Forestry: Woodland Improvement (Thinning and Tending- Broadleaves)** | | | | | | | | | | | | |
| 5a | Woodland Improvement (Thinning and Tending- Broadleaves) | +/- | ++ | 0 | + | + | + | + | + | +/- | + | ++ |
| **Measure 6: Investments improving the Resilience and environmental value of Forests: Native Woodland Conservation Scheme** | | | | | | | | | | | | |
| 6 | Native Woodland Conservation Scheme | ++ | + | 0 | + | ++ | + | + | + | 0 | + | ++ |
| **Measure 7: Knowledge Transfer and Information Actions** | | | | | | | | | | | | |
| 7a | Knowledge Transfer Groups Scheme | + | ++ | 0 | 0 | + | 0 | 0 | 0 | 0 | 0 | + |
| 7b | Continued Professional Development Scheme | 0 | + | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7c | Targeted Training Scheme | + | + | + | 0 | 0 | 0 | 0 | 0 | 0 | 0 | + |
| 7d | Advisory Services Scheme | + | + | 0 | 0 | + | 0 | 0 | 0 | 0 | 0 | 0 |

| Key for Likely Effects | |
|---|---|
| ++ | Likely strong beneficial effect |
| + | Likely beneficial effect |
| 0 | Neutral / no effect |
| - | Likely adverse effect |
| - - | Likely strong adverse effect |
| +/- | Uncertain effect |

The alternatives or strategy components are in rows; environmental topics or objectives are in columns; red/amber/green represent negative/neutral/positive impacts.

## d. Level of detail

The level of detail of the SEA analysis should be proportional to the level of detail of the strategy. Therefore, if the strategy includes sites, then the assessment should be site-specific. The baseline environmental description should already include information about the characteristics of areas that are likely to be significantly affected (see Section 8). This will provide the basis for a more specific assessment of sites, like that shown in Figure 11.1. This is an example related to a waste plan, but a similar structure can be used for a forestry strategy. The sites can then be compared as in Table 11.5.

**Figure 11.1:** Example of site-specific assessment (extract) (Gloucestershire).

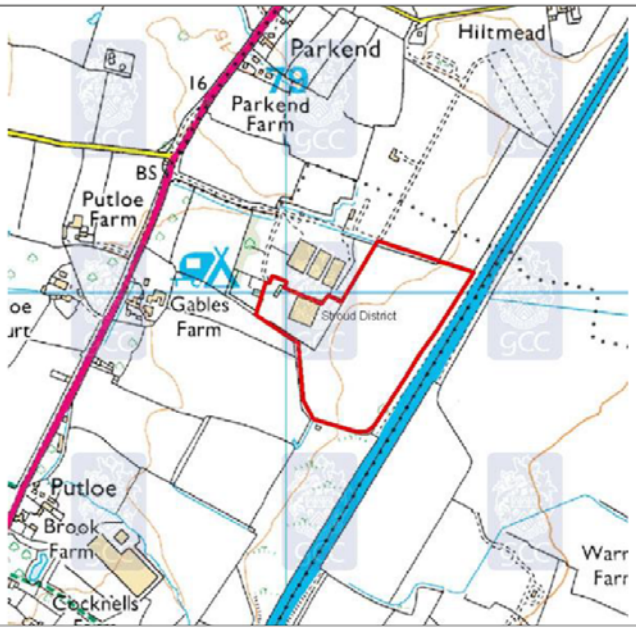
| Ecology/Biodiversity<br>*(Based on information provided by Gloucestershire County Council's Ecologist and the Gloucestershire Centre for Environmental Records (GCER))* | |
|---|---|
| Score | +* |
| Score Definition | Overall impact on biodiversity could be potentially uncertain or positive. Identified important ecological constraint greater than 250 metres and up to and including 1km distant<br>Scores 0* indicate designated aquifer fed/surface water/flood water dependent site(s) over 1km distant which may be affected (where chosen waste technology and development design poses a risk to the water environment) |
| Additional Comments | Scores with * indicate designated aquifer fed/surface water/flood water dependent site(s) over 1km distant which may be affected, site as named above. |
| Nearby Internationally & Nationally Designated Sites Recorded | None |
| Other Internationally & Nationally Designated Sites (wetlands) | Severn Estuary SAC/SPA/Ramsar/SSSI [10,950m] |
| Ecology Legend | SSSI *Site of Special Scientific Interest*<br>Key Wildlife Site - area<br>SAC Site<br>Ramsar Site<br>SPA Site |
| Constraints Map |  |

**Table 11.5:** Comparison of sites (columns) using SEA objectives (rows) (Gloucestershire).

| SA Objectives | Wingmoor Farm East | | | | Wingmoor Farm West | | | | Javelin Park | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Large Facility (Thermal Treatment) | Large Facility (not Thermal Treatment) | Medium Facility (Thermal Treatment) | Medium Facility (not Thermal Treatment) | Large Facility (Thermal Treatment) | Large Facility (not Thermal Treatment) | Medium Facility (Thermal Treatment) | Medium Facility (not Thermal Treatment) | Large Facility (Thermal Treatment) | Large Facility (not Thermal Treatment) | Medium Facility (Thermal Treatment) | Medium Facility (not Thermal Treatment) |
| 1: Health & Wellbeing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | -? | - | -? |
| 2: Public Education/Participation | +? | +? | +? | +? | +? | +? | +? | +? | +? | +? | +? | +? |
| 3: Amenity | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | -? | -? | -? |
| 4: Sustainable Economic Development | +? | +? | +? | +? | +? | +? | +? | +? | +? | +? | +? | +? |
| 5: Economical Waste Management | + | + | + | + | + | + | + | + | + | + | + | + |
| 6: Employment | +/- | +/- | +/- | +/- | +/- | +/- | +/- | +/- | +/- | +/- | +/- | +/- |
| 7: Aircraft Safety | -? | 0 | -? | 0 | -? | 0 | -? | 0 | 0 | 0 | 0 | 0 |
| 8: Biodiversity | -? | -? | -? | -? | -? | -? | -? | -? | -? | -? | -? | -? |
| 9: Landscape | -? | 0 | -? | 0 | -? | -? | -? | 0 | -? | -? | -? | -? |
| 10: Screening & Innovative Design | - | - | - | - | +? | +? | +? | +? | -? | -? | -? | -? |
| 11: Material, Cultural & Recreational Assets | +/- | +/- | +/- | +/- | +/- | +/- | +/- | +/- | +/- | +/- | +/- | +/- |
| 12: Geodiversity | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13: Townscapes and Heritage | + | + | + | + | + | + | + | + | + | + | + | + |
| 14: Flooding | + | + | + | + | +? | +? | +? | +? | + | + | + | + |
| 15: Pollution Prevention | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 16: Soil/Land Quality | + | + | + | + | ++ | ++ | ++ | ++ | ++ | ++ | ++ | ++ |
| 17: Air Quality | +/- | + | +/- | + | +/- | + | +/- | + | ++/- | ++ | ++/- | ++ |
| 18: Water Quality | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

### e. Secondary and cumulative impacts

Secondary impacts are impacts that occur 'down the line', away from the original effect or as a result of a complex pathway. Secondary impacts of forestry strategies can include improved security of supply of building materials and energy, improved health through increased access to recreational opportunities, reduced flooding downstream of afforestation areas, and the opportunity costs of using land for forestry (as opposed to, say, agriculture or mineral extraction).

Secondary impacts cannot be easily identified through simple indicator lists or tables, but can be identified by using a flowchart such as that in Figure 11.2. While Figure 11.2 shows an analysis of the impacts of biofuels, a similar structure could be used for a forestry strategy, starting with the question "what are the direct impacts of the forestry strategy?" and proceeding from there by asking "… and what follow-on impact would this have?".

Cumulative impacts are the sum total impacts of the strategy ('total impacts'), in combination with the impacts of other past, current and foreseeable plans, projects and other trends. Climate change, habitat fragmentation and soil erosion are all examples of cumulative impacts. Essentially, whereas the rest of the assessment process focuses on the impacts of the strategy, cumulative impacts consider the impacts on environmental receptors. To be sustainable in the long-term, society's overall cumulative impacts must stay within environmental limits. This is a significant challenge in the overall SEA process.

Table 11.6 provides an example of how the 'total impacts' (rather than 'cumulative impacts') of a strategy can be described. In this example, the impacts of other past, current and foreseeable plans, projects and other trends (which cumulative effects should consider) were not considered. Table 11.7 shows the cumulative ('in combination') impacts of the National Forestry Programme and other plans and programmes.

Where significant negative cumulative impacts are identified, mitigation measures should be considered, as described in Section 12.

**The 'in combination' impacts that must be assessed as part of Appropriate Assessment / Habitats Directive Assessment are cumulative impacts. This chapter of the SEA can document the findings of the Appropriate Assessment process.**

**Figure 11.2:** Identifying secondary impacts (OECD).

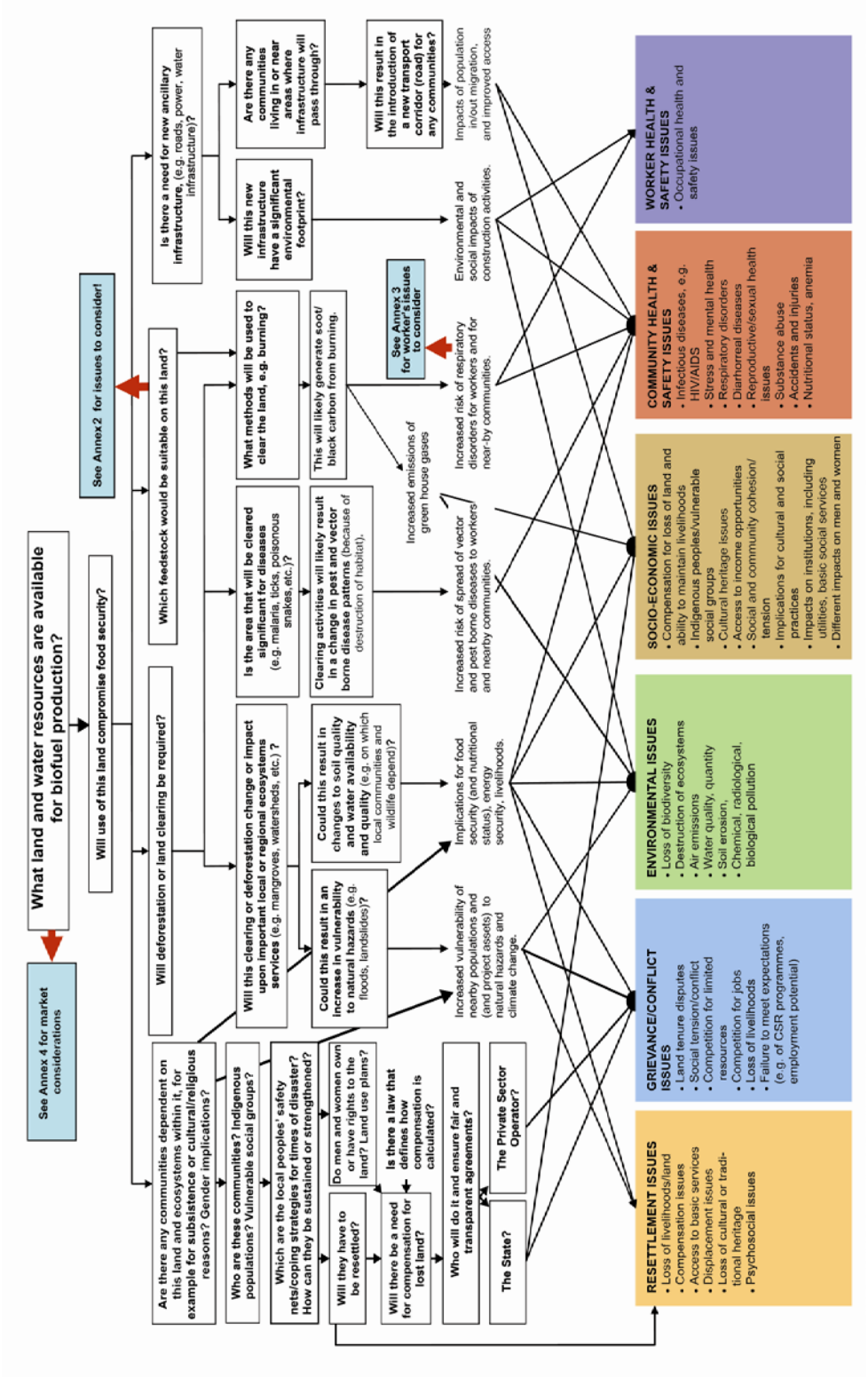


**Table 11.6:** Example of analysis of the total impacts of a strategy (Grid25).

| Environmental Component | Potential Cumulative effects that could generally occur |
|---|---|
| **Archaeological and Architectural heritage** | • Impacts could include interference with sites of archaeological significance during construction and impacts upon the context of archaeological and architectural heritage.<br>• Construction of underground cables may involve significant direct impacts on archaeological heritage.<br>• By facilitating the development of renewable energy infrastructure, which are provided for by land use planning policies including those from the NSS, NDP and lower tier Regional and County Plans impacts could occur upon archaeology.<br>• New or extended substations, cables or facilitated development could impact on any nearby built up areas including cultural heritage.<br>• Impacts could occur upon protected structures and associated 18th and 19th century demesne landscapes |
| **Air & Climatic factors** | • The building of new transmission lines would help to facilitate the achievement of higher level government targets contained in higher level national and international energy and greenhouse gas emission policies.<br>• Interconnection would:<br>- Improve competition – by linking to other European markets;<br>- Support the development of renewable power generation – by enhancing the flexible exchange of power flows over a large area of the island of Ireland. This would enable the connection and operation of larger volumes of renewable power generation (especially wind powered generation) throughout the island;<br>- Improve security of supply – by providing a dependable high capacity link between the transmission systems of Ireland and other countries. |

**Table 11.7:** Example of cumulative / 'in combination' impacts (total impacts of the strategy + impacts of other plans, projects and trends) (NFP).

| Plan or Programme | Objectives and Policies of Relevance | Likely In-Combination Effects |
|---|---|---|
| **Plans and programmes resulting in land use or land cover change relating to FP Measures 1, 2, 3, 4 and 5** | | |
| Border Regional Authority (2010) Regional Planning Guidelines 2010-2022 | The Regional Planning Guidelines (RPG) set the planning framework for the planning and development of the Region.<br>A number of the strategies/policies contained in the RPG promote new development and improvements to infrastructure:<br>• Land Use Zoning Policy Framework CSP3 - CSP11<br>• Rural Housing Policy CSP1<br>• Regional Economic Strategy ESP4, ESP6 - ESP10, ESP14.<br>• Infrastructure Strategy INFP2, INFP3, INFP7, INFP9 - INFP12<br>• Water Services Policy INFP18, INFP19<br>• Energy Policy INFP23 - INFP26<br>• Telecommunications Policy INFP27<br>• Waste Management Policy INFP28, INFP29, INFP30<br>• Social Infrastructure and Community Development Policy SIP2 | Depending on where development is located there could be increased land pressure resulting in further habitat loss or fragmentation, disturbance of wildlife and potential damage to cultural heritage/ archaeological sites and monuments.<br>The Draft SEA Environmental Report (2010) identified a number of policies having potential conflict with the ecology and cultural heritage Strategic Environmental Objectives but considered these to be likely to be mitigated to an acceptable level. Policy ENVP16 requires that mitigation measures are incorporated and implemented and INFP1 requires that the SEA and EIA Directives are complied with. With mitigation measures in place it is unlikely for there to be significant in-combination effects. |
| Mid-West Regional Authority (2010) Mid-West Regional Planning Guidelines 2010-2022 | The Regional Planning Guidelines (RPG) includes the vision to provide the development of the social, economic and physical infrastructure demanded by foreign and indigenous industry in Limerick-Ennis-Shannon and that social, community and economic infrastructure necessary for suitable living will be provided in rural areas. Its economic development strategy, settlement strategy and transport and infrastructure strategy promote growth, new development and infrastructure improvements.<br>The RPGs also state that Development Plans should make | Depending on where development is located there could be increased land pressure resulting in further habitat loss or fragmentation, disturbance of wildlife and potential damage to cultural heritage/ archaeological sites and monuments. Depending on where afforestation is proposed, these could result in further similar in-combination effects.<br>The Environmental Report and Habitats Directive Assessment (2010) identified the potential impact on Natura 2000 sites of developments within them or in their vicinity but these would have conditions (mitigation) imposed. With |

# 12. MEASURES ENVISAGED TO PREVENT, REDUCE AND AS FULLY AS POSSIBLE OFFSET ANY SIGNIFICANT ADVERSE EFFECTS ON THE ENVIRONMENT OF IMPLEMENTING THE STRATEGY (ANNEX I(G))

**Key points:**

- Where negative impacts are identified in the impact assessment stage, including cumulative impacts, mitigation measures should be considered at this stage.
- Forestry also provides many opportunities for enhancement.

Mitigation measures should be considered for any significant negative impacts identified at the impact assessment stage. Measures to prevent, reduce and offset impacts are jointly called 'mitigation measures', but within them is an invisible hierarchy: avoidance/prevention is better than reduction, which in turn is better than offset/compensation. Figure 12.1 shows examples of these different types of mitigation.

**Figure 12.1:** 'Hierarchy of mitigation' for forestry strategies.

| | Examples |
|---|---|
| **Avoidance/prevention:** Not causing impacts in the first place. | ◢ Minimise the need for wood products such as biofuels, to avoid the impacts associated with their production and use<br>◢ Require the use of indigenous and local species to prevent reduction in genetic diversity<br>◢ Support community involvement in woodland management to help prevent damage, poaching, etc.<br>◢ Prohibit aerial fertilisation of sensitive sites, to avoid eutrophication. |
| **Reduction / minimisation:** Causing the least negative impacts possible | ◢ Promote transport of timber by rail and water rather than road<br>◢ Limit afforestation on 1st and 2nd order stream catchments in acid-sensitive catchments, to reduce soil acidification<br>◢ Establish a programme of woodland inspections to ensure that impacts are minimised through good management<br>◢ Establish a checklist or flowchart for determining whether individual forestry projects should be supported. |
| **Offset/compensation** Causing the impact but providing a compensatory benefit. | ◢ Require preparation and implementation of a post-felling site management plan<br>◢ Require provision of new public access routes where existing access routes are removed during felling and/or afforestation. |

Forestry also provides many opportunities for improving the current situation. Figure 12.2 shows some enhancement measures that could be sought through a forestry strategy.

**Figure 12.2:** Enhancement through forestry strategies.

| | Examples |
|---|---|
| **Enhancement:** Increasing the benefits provided through the plan. | ◢ Improve biodiversity by requiring coniferous forests to be replanted with indigenous broadleaved species.<br>◢ Promote the restructuring of existing forests to include open space and structural diversity through age classes and species mix.<br>◢ Fund woodland officers to provide training and support to woodland owners, especially owners of small woodlands.<br>◢ Support cooperatives of small woodland owners to manage their woodlands and market their timber products.<br>◢ Require government-owned woodland to be publicly accessible.<br>◢ Encourage development of forest walking/cycling/riding trails.<br>◢ Encourage the use of volunteer help in managing woodland. |

As part of the SEA process, strategy developers could consider how to make the forestry strategy more resilient to future changes such as fluctuations in timber and fuel prices, climate change, changes in subsidies and taxes for landowners, and increased pressure on land. This could include managing for a range of outcomes and products rather than a monoculture; planting drought and flood-resistant species; and forming co-operatives of landowners to pool resources. Strategy developers could also consider how to use forestry strategies to increase resilience elsewhere, particularly through increased self-sufficiency, communal ownership/management of woodlands, provision of local jobs and provision of recreational opportunities. The Resilience Alliance[25] provides more information on this.

Mitigation and enhancement at the strategic level is different from, and supports, mitigation at the individual project level. Forestry strategies can, for instance, set criteria that all forestry operations must adhere to; set criteria for what projects will receive subsidies; identify preferred locations for afforestation; and require the preparation of impact assessments or management plans for felling and/or planting. Individual project-level environmental impact assessments can then consider issues such as how drainage in an individual stream catchment can be managed, what species should be planted, and where roads should be located.

25 Resilience Alliance (2010) Assessing Resilience in Social-Ecological Systems: Workbook for Practitioners 2.0, https://www.resalliance.org/files/ResilienceAssessmentV2_2.pdf

The *Code of Best Forest Practice*[26], the publications listed in *Appendix III of the Indicative Forestry Statement*[27], and *Forests and Water: Achieving Objectives under Ireland's River Basin Management Plan 2018-2021*[28] are good starting points for identifying enhancement and mitigation measures at the project level. The *Code of Best Forest Practice's* sustainability implications for forest management (Figure 12.3) can also provide inspiration for strategic-level enhancement and mitigation.

**Figure 12.3:** The *Code of Best Forest Practice*: sustainability implications for forest management.

- The species planted should be suitable in terms of genetic quality, growth potential, suitability to site and wood quality. This also implies the inclusion of native species where feasible.
- The principle of diversity must be upheld, and the transfer of lands to forestry should ensure that overall species diversity is maintained or increased. It is widely recognised that a commercial forest will support a wide range of species and interspecies associations at various stages of its rotation.
- The establishment and management of forests should be undertaken in a way that ensures that the full value of the forest is achieved with the maximum efficiency and consistent with environmental protection.
- The principle of quality management leading to quality products should be implicit, so that the user requirements of the various forest customers are recognised and met.
- Forest practice must be associated with: a healthy environment and the need for water and soil quality; an archaeological, heritage and cultural presence; nature conservation; landscape conservation and enhancement; and recreational features. The particular needs of rural communities must also be respected.
- The health and vitality of forests must be protected and maintained, with management oriented towards pest control and good practice in relation to the avoidance or minimisation of fire and windthrow damage.
- Forest operations should not damage the viability of the forest.
- Forest practice must be backed by strong and ethically based professional, educational and training programmes. These will provide sound advice and will help to ensure that forest operations are carried out safely, efficiently and with minimal risk to the environment.
- The principles of transparency and a high level of communication between the forest authority, owners, managers, operators and users are essential to ensure the successful implementation of the Code of Best Forest Practice.

Many mitigation measures will already be part of the strategy, or will have been added to the strategy as it is developed. The Environmental Report should document what mitigation measures have been considered, how they have been incorporated into the strategy, or why they have been rejected. Figure 12.4 shows an example of this. Once mitigation measures have been put in place, the remaining impacts are called 'residual impacts': these are the final predicted impacts of the strategy.

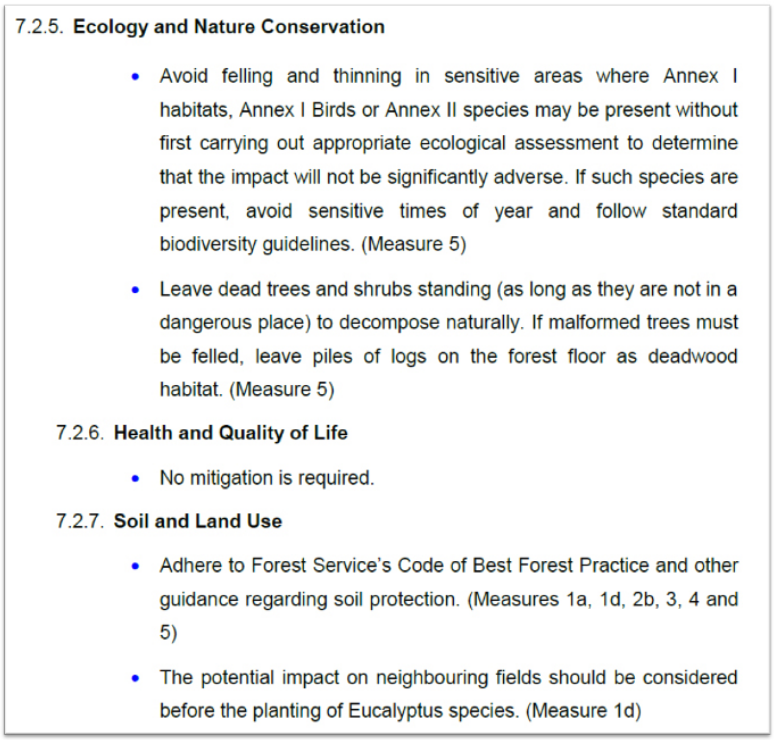
26 https://www.agriculture.gov.ie/forestservice/publications/codeofbestforestpractice/

27 www.agriculture.gov.ie/media/migration/forestry/IFSDoc_Dec08.pdf

28 www.agriculture.gov.ie/media/migration/forestry/grantandpremiumschemes/2018/ForestsWaterFINAL26June18LoRes280618.pdf

**This chapter of the Environmental Report can also document the avoidance and mitigation measures that resulted from the Appropriate Assessment / Habitats Directive Assessment process.**

**Figure 12.4:** Documenting proposed mitigation measures for each environmental topic, and how they have been incorporated into the strategy ('Measure x') (NFP).



7.2.5. **Ecology and Nature Conservation**

- Avoid felling and thinning in sensitive areas where Annex I habitats, Annex I Birds or Annex II species may be present without first carrying out appropriate ecological assessment to determine that the impact will not be significantly adverse. If such species are present, avoid sensitive times of year and follow standard biodiversity guidelines. (Measure 5)
- Leave dead trees and shrubs standing (as long as they are not in a dangerous place) to decompose naturally. If malformed trees must be felled, leave piles of logs on the forest floor as deadwood habitat. (Measure 5)

7.2.6. **Health and Quality of Life**

- No mitigation is required.

7.2.7. **Soil and Land Use**

- Adhere to Forest Service's Code of Best Forest Practice and other guidance regarding soil protection. (Measures 1a, 1d, 2b, 3, 4 and 5)
- The potential impact on neighbouring fields should be considered before the planting of Eucalyptus species. (Measure 1d)

# 13. DESCRIPTION OF MEASURES ENVISAGED CONCERNING MONITORING

The SEA Directive requires the actual impacts of strategies to be monitored, in part so that future rounds of impact predictions can be based on better evidence, and in part so that unexpected negative impacts can be identified early and appropriate remedial action can be undertaken.

Monitoring frameworks should thus focus on:

- significant negative residual (post mitigation) impacts predicted in the SEA
- 'unforeseen' negative impacts, for instance changes in population or in people's behaviour that were used as assumptions in the SEA but may not actually occur
- ensuring that monitoring is actually undertaken, by specifying who is responsible for monitoring, what will be monitored (indicators, data sources) and how frequently monitoring should take place
- ensuring that unforeseen adverse impacts identified through monitoring are dealt with.

Table 13.1 provides an example of a proposed monitoring programme.

**Table 13.1:** Monitoring programme (Wild Atlantic Way).

| Environmental Component | Significant Positive Effect Likely to Occur | Potentially Significant Adverse Effect, If unmitigated | Residual Non-Significant Adverse Effect |
|---|---|---|---|
| **Biodiversity and flora and fauna** | • Visitor management strategy will contribute positively to advancing the attainment of conservation objectives along and adjacent to the route and existing candidate Discovery Points, thereby benefitting the management of designated sites.<br>• Continuation of and further contribution towards the protection of biodiversity and flora and fauna, including ecological connectivity, by: using existing routes, viewing points and lay-bys instead of developing new infrastructure; and contributing towards compliance with environmental legislation by local authorities<br>• Providing management material [evidence, monitoring and guidelines] to assist in the implementation of management plans for designated habitats and to assist in achieving the conservation objectives of these relevant management plans for such sites and habitats. | • Arising from both construction (including reuse and reinforcement of existing viewing points and lay-bys) and operation: loss of/damage to biodiversity in designated sites, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna<br>• Habitat loss, fragmentation and deterioration, including patch size and edge effects<br>• Disturbance and displacement of protected species and coastal squeeze | Loss of an extent of non-protected habitats arising from the replacement of semi-natural land covers with artificial surfaces |
| **Population and human health** | • Contribution towards the protection of human health as a result of protection of environmental vectors | • Potential interactions if effects upon environmental vectors such as water are not mitigated | None |
| **Soil** | • Continuation of and further contribution towards the protection of hydrogeological and ecological function of the soil resource by: using existing routes, viewing points and lay-bys instead of developing new infrastructure; and contributing towards compliance with environmental legislation by local authorities | • Adverse impacts on the hydrogeological and ecological function of the soil resource | Loss of an extent of soil function arising from the replacement of semi-natural land covers with artificial surfaces |
| **Water** | • Continuation of and further contribution towards the protection of water resources by: using existing routes, viewing points and lay-bys instead of developing new infrastructure; and contributing towards compliance with environmental legislation by local authorities | • Adverse impacts upon the status of water bodies and entries to the WFD Register of Protected Areas, arising from changes in quality, flow and/or morphology | Flood related risks remain due to uncertainty with regard to extreme weather events |
| **Air and climatic factors** | • None at strategic alternative level however potential improvements in walking and cycling levels in the long-term. | • Failure to contribute towards sustainable transport and associated impacts (energy usage and emissions to air including noise and greenhouse gases) | Increases in greenhouse gas emissions however existing and planned walkways and greenways of local authorities could be integrated into the route overtime |
| **Material Assets** | • Improvement in use of existing routes, viewing points and lay-bys instead of developing new infrastructure<br>• Visitor management allows for growth outside of the summer peak (thereby benefitting the provision of water services). | • The need to provide adequate and appropriate water services (it is the function of Irish Water to provide for such needs)<br>• Increases in waste levels | Residual wastes to be disposed of in line with higher level waste management policies |
| **Cultural Heritage** | • Continuation of and further contribution towards the protection of cultural heritage by: using existing routes, viewing points and lay-bys instead of developing new infrastructure; and contributing towards compliance with environmental legislation by local authorities | • Potential effects on protected and unknown archaeology and protected architecture arising from construction and operation | Potential alteration to the context and setting of designated architectural and archaeological heritage however these will occur in compliance with legislation. Potential loss of unknown archaeology however this loss will be mitigated by measures integrated into the Programme |
| **Landscape** | • Continuation of and further contribution towards the protection of landscape designations by: using existing routes, viewing points and lay-bys instead of developing new infrastructure; and contributing towards compliance with environmental legislation by local authorities | • Occurrence of adverse visual impacts and conflicts with the appropriate protection of statutory designations relating to the landscape | Minimal residual adverse effects |

# 14. NON-TECHNICAL SUMMARY OF THE INFORMATION PROVIDED UNDER THE ABOVE HEADINGS

**Key points:**

- When you have completed this stage, prior to making your SEA Environmental Report public, you may want to go back to Figures 2.1 and 2.2 and carry out a self-test.

The important thing about the Non-Technical Summary is that it should be a summary of the information provided in the main report, not just a description of how the main report has been compiled. Two Northern Irish plans were successfully legally challenged, in part because their non-technical summaries only described the methodology used in the SEA. Therefore, the Non-Technical Summary should provide a brief discussion of the policy and environmental context, alternatives considered, main impacts of the strategy and alternatives, mitigation measures, etc. To do this concisely, maps and tables are particularly useful. The language used should be non-technical and understandable to the general public.

At this stage you may want to carry out a self-check, using Tables 2.1 and 2.2 as a checklist, to make sure that the Environmental Report includes everything that it legally needs to and that the SEA process has been carried out in line with good practice.

# 15. POST-ADOPTION 'SEA STATEMENT'

**Key points:**

- After the strategy has been adopted, a 'SEA Statement' must be prepared that explains how environmental information was taken into account in the strategy development process and how the strategy's impacts will be monitored.
- The SEA Statement should focus on the changes made to the strategy in response to the SEA process.
- Much of this information can also be included in the Environmental Report, to show that the SEA process influenced the strategy development process.

Once a strategy is adopted, the SEA Directive requires the following information to be made public:

a) The adopted strategy;
b) The proposed monitoring programme; and
c) A "SEA statement" that summarises:
    1. how environmental considerations have been integrated into the strategy;
    2. how the Environmental Report has been taken into account;
    3. how the opinions of statutory consultees, the public and any relevant other countries have been taken into account; and
    4. the reasons for choosing the strategy as adopted, in the light of the other reasonable alternatives dealt with.

The SEA Statement essentially 'tells the story' of the SEA process. Much of this information will already have been documented in the Environmental Report, and can be taken from there. Section 13 of this Good Practice Note describes how to develop a monitoring programme (B above). Table 3.1 shows how to document how consultation comments have been taken into account (C3 above). Section 10, and particularly Figure 10.6, details how to explain the reasons for choosing the preferred alternatives (C4 above).

This section deals with the remaining points C1 and C2 above. The distinction between C1 and C2 is not clear in practice, and these two aspects are typically considered together.

The starting point for the description of how environmental considerations have been integrated into the strategy is typically a description of how the SEA was carried out: who was involved, relevant dates, and a flowchart that shows the links between the stages of planning and SEA stages. Figures 4.1 and 4.2 show examples of how this can be documented.

The main findings and recommendations of the SEA process are then summarised, as well as changes made to the strategy in response to the findings/recommendations. Figures 15.1 and 15.2 show, respectively, ways of documenting how SEA findings have been considered in a strategy and how SEA recommendations have been taken into account.

**Figure 15.1:** Description of how environmental considerations have been integrated into the plan (WAW).

Key aspects of the Operational Programme where environmental input was integrated include:

- Visitor Management
  - With a route extending along the entire western seaboard, the Programme facilitates contributions towards improvements in environmental management and protection by allowing for both: the management of visitors at a macro spatial level (in terms of what sections of the western seaboard could accommodate increases in visitors); and the management of visitors at a micro spatial level (in terms of what areas adjacent to viewing points, lay-bys etc. should be avoided).
  - The Programme also facilitates the management of visitors across the tourist season so that growth can be sought in times outside of the summer peak.

**Table 15.1:** Description of how the recommendations of the Environmental Report have been taken into account (Eastern-Midlands RWMP).

| Alternatives | Mitigation Measures Proposed in SEA Environmental Report | Included in the RWMP |
|---|---|---|
| Section 7.2 Self-sufficiency | To address the possibility that wastes would continue to be exported despite capacity coming on-stream in Ireland, a strong commitment to self-sufficiency and the proximity principle would need to be factored into the strategic approach. | Policy A.4 deals with the issue of self-sufficiency. Wording has been added to the policy since the draft plan to strengthen the position. In addition, the DECLG is looking at policy and / or economic options to reduce the exporting of residual wastes. The full wording of Policy A.4 is:<br><br>*Aim to improve regional and national self-sufficiency of waste management infrastructure for the reprocessing and recovery of particular waste streams such as mixed municipal waste, in accordance with the proximity principle. The future application of any national economic or policy instrument to achieve this policy shall be supported.* |
| Section 7.5.3 Resource efficiency & circular Economy | A Code of Practice shall be prepared for the *Preparation for Reuse* sector and this will be rolled out alongside an education and awareness campaign at the local level to assist operators in delivering a positive sustainable service overall. Registration of activities should also be considered. | Policy Action C.1.1 in the final RWMP includes a commitment to preparing a guidance note . |
| Section 7.5.5 Infrastructure (Collection) | An awareness campaign to support the rollout of brown bins is required. Ongoing review of the feasibility for indigenous paper, glass and metal recycling capacity is required as part of the overall strategy for self-sufficiency to determine if volumes of waste could reasonably support smaller regional facilities rather than sending them for export. | Policy Actions B.2.1, B.2.3, B.4.3 all address the issue of awareness and prevention campaigns. Although not specifically referring to rollout of brown bins the wording in these policy actions encompasses a range of possible issues such as the brown bin collection service. In addition Policy Action F.1.4 commits to allocate resources to monitor the schedule for the roll-out of brown bins to households. |

# REFERENCES

See also the footnotes on previous pages.

IAIA (International Association for Impact Assessment) (2002) Strategic environmental assessment performance criteria. Available online: www.iaia.org/uploads/pdf/sp1.pdf.

RTPI (Royal Town Planning Institute) (2018) Strategic environmental assessment: Improving the effectiveness and efficiency of SEA/SA for land use plans. Available online: https://www.rtpi.org.uk/media/2668152/sea-sapracticeadvicefull2018c.pdf.

Environmental Reports cited in this Good Practice Note

| Referred to in this report as: | Strategy for which SEA was prepared | Web-link |
|---|---|---|
| Czech Rep. | Národní lesnický program II 2008 (in Czech) | https://portal.cenia.cz/eiasea/download/U0VBX01aUDA2OEtfdnlob2Rub2NlbmlfMS5wZGY/MZP068K_vyhodnoceni.pdf |
| Eastern-Midlands RWMP | Eastern-Midlands Regional Waste Management Plan 2015-2021 | http://emwr.ie/emwr-plan-library/ |
| FoodWise | FoodWise 2025 – A 10-year vision for the Irish agri-food industry | https://www.agriculture.gov.ie/media/migration/foodindustrydevelopmenttrademarkets/agri-foodandtheeconomy/foodwise2025/finalenvironmentalanalysis/FoodWise2025SEAEnvironmentalReport091215.pdf |
| FPR | Forests, Products and People (Forest Policy Review) | https://www.agriculture.gov.ie/media/migration/forestry/forestpolicyreviewforestsproductsandpeople/EnvironmentalReportFPR020714.pdf |
| Gloucestershire | Gloucestershire Waste Core Strategy 2010 | https://www.gloucestershire.gov.uk/media/7784/sustainability_appraisal_-sa-_report-43153.pdf |
| Grid25 | Grid25 Implementation Programme 2011-2016 | http://www.eirgridgroup.com/site-files/library/EirGrid/Environmental-Report-for-the-Grid25-Implementation-Programme-2011-2016-Strategic-Environmental-Assessment.pdf |
| Guinea | Co-management of reserved forests in Guinea 2001 | https://rmportal.net/library/content/nric/1532.pdf |
| Liberia | Liberian Forest Reform Law 2006 | http://proactnetwork.org/proactwebsite_3/images/Documents/Publications/ProAct_Projects_Reports/3.2.1.Liberian-SEA-world-bank-published.pdf |

| Referred to in this report as: | Strategy for which SEA was prepared | Web-link |
|---|---|---|
| MER | Intercooperation/ Netherlands Commission for Environmental Assessment (2007) Strategic environmental assessment and biofuels: Establishing linkages | http://www.commissiemer.nl/docs/cms/gtz_factsheet_seabiofuel_final.pdf |
| Mussels | Plan for Forests and Freshwater Pearl Mussel in Ireland | https://www.agriculture.gov.ie/media/migration/forestry/publicconsultation/forestryfreshwaterpearlmussel/RevSEAEnvironmentalReportForestsFPM100718.pdf |
| NFP | National Forestry Programme 2014-2020 | https://www.agriculture.gov.ie/forestservice/forestryprogrammes2014-2020/forestprogramme2014-2020environmentalreport/ |
| NHWMP | National Hazardous Waste Management Plan 2008-2012 | http://www.epa.ie/pubs/reports/waste/haz/Environmental%20Report%20EPA%20Edit%20-%20Final%2006.11.07.pdf |
| Nitrates | Ireland's 4th Nitrates Action Programme (2017) | https://www.housing.gov.ie/sites/default/files/public-consultation/files/strategic_environmental_assessment_environmental_report_-_october_2017.pdf |
| OECD | OECD/DAC (2011) Strategic environmental assessment and biofuel development | http://content-ext.undp.org/aplaws_publications/3266362/SEA%20and%20biofuel%20development%20final.pdf |
| Papua NG | Sustainable Forestry Program for Papua New Guinea, Solomon Islands, and Vanutau 1993 | https://rmportal.net/library/content/nric/1532.pdf |
| Puerto Rico | Forest Plan Amendments 2004 | https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev3_042870.pdf |
| Scotland | Scottish Forestry Strategy 2006 | No longer publicly available |
| Southern RWMP | Southern Regional Waste Management Plan 2015-2021 | http://southernwasteregion.ie/content/southern-region-waste-management-plan-2015-2021-associated-reports |
| Suffolk | Waste Core Strategy (2009) | https://www.suffolk.gov.uk/assets/planning-waste-and-environment/planning-applications/WCS-Sustainability-Appraisal-Report.pdf |

| Referred to in this report as: | Strategy for which SEA was prepared | Web-link |
|---|---|---|
| United States | National Forest System Land Management Planning (2011) | www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5274099.pdf |
| US NW | Northwest Forest Plan – 'Survey and Manage' management standards and guidelines. | https://www.fs.fed.us/r6/reo/survey-and-manage/ |
| Vietnam | Vietnam Forestry Master Plan 2010-2020 | No longer publicly available |
| WAW | Wild Atlantic Way Operational Programme 2015-2019 | http://www.failteireland.ie/FailteIreland/media/WebsiteStructure/Documents/2_Develop_Your_Business/Key%20Projects/Strategic-Environmental-Assessment-Statement.pdf |

# AN GHNÍOMHAIREACHT UM CHAOMHNÚ COMHSHAOIL

Tá an Ghníomhaireacht um Chaomhnú Comhshaoil (GCC) freagrach as an gcomhshaol a chaomhnú agus a fheabhsú mar shócmhainn luachmhar do mhuintir na hÉireann. Táimid tiomanta do dhaoine agus don chomhshaol a chosaint ar thionchar díobhálach na radaíochta agus an truaillithe.

## Is féidir obair na Gníomhaireachta a roinnt ina trí phríomhréimse:

Rialáil: *Déanaimid córais éifeachtacha rialaithe agus comhlíonta comhshaoil a chur i bhfeidhm chun torthaí maithe comhshaoil a sholáthar agus chun déileáil leo siúd nach gcloíonn leis na córais sin.*

Eolas: *Soláthraímid sonraí, faisnéis agus measúnú comhshaoil atá ar ardchaighdeán, spriocdhírithe agus tráthúil chun bonn eolais a chur faoin gcinnteoireacht ar gach leibhéal.*

Abhcóideacht: *Bímid ag saothrú i gcomhar le grúpaí eile chun tacú le comhshaol atá glan, táirgiúil agus cosanta go maith, agus le hiompar a chuirfidh le comhshaol inbhuanaithe.*

## Ár bhFreagrachtaí

### Ceadúnú

Déanaimid na gníomhaíochtaí seo a leanas a rialú ionas nach ndéanann siad dochar do shláinte an phobail ná don chomhshaol:

- saoráidí dramhaíola (*m.sh. láithreáin líonta talún, loisceoirí, stáisiúin aistrithe dramhaíola*);
- gníomhaíochtaí tionsclaíocha ar scála mór (*m.sh. déantúsaíocht cógaisíochta, déantúsaíocht stroighne, stáisiúin chumhachta*);
- an diantalmhaíocht (*m.sh. muca, éanlaith*);
- úsáid ghlanscartha agus scaoileadh rialaithe Orgánach Géinmhodhnaithe (*OGManna*);
- foinsí radaíochta ianúcháin (*m.sh. trealamh x-gha agus radaiteiripe, foinsí tionsclaíocha*);
- áiseanna móra stórála peitril;
- doirtí fuíolluisce;
- gníomhaíochtaí dumpála ar farraige.

### Forfheidhmiú Náisiúnta i leith Cúrsaí Comhshaoil

- Clár náisiúnta iniúchtaí agus cigireachtaí a dhéanamh gach bliain ar shaoráidí a bhfuil ceadúnas ón nGníomhaireacht acu.
- Maoirseacht a dhéanamh ar fhreagrachtaí cosanta comhshaoil na n-údarás áitiúil.
- Caighdeán an uisce óil, arna sholáthar ag soláthraithe uisce phoiblí, a mhaoirsiú.
- Obair le húdaráis áitiúla agus gníomhaireachtaí eile chun dul i ngleic le coireacht chomhshaoil trí chomhordú a dhéanamh ar líonra forfheidhmiúcháin náisiúnta, díriú ar chiontóirí, agus maoirsiú a dhéanamh ar fheabhsúchán.
- Rialacháin maidir le Dramhthrealamh Leictreach agus Leictreonach (WEEE), le Srian ar Shubstaintí Guaiseacha (RoHS) agus ar shubstaintí ídíonn an ciseal ózóin.
- An dlí a chur orthu siúd a bhriseann dlí an chomhshaoil agus a dhéanann dochar don chomhshaol.

### Bainistíocht Uisce

- Monatóireacht agus tuairisciú a dhéanamh ar cháilíocht aibhneacha, lochanna, uiscí idirchreasa agus cósta na hÉireann, agus screamhuiscí; leibhéil uisce agus sruthanna aibhneacha a thomhas.
- Comhordú náisiúnta agus maoirsiú a dhéanamh ar an gCreat-Treoir Uisce.
- Monatóireacht agus tuairisciú a dhéanamh ar Cháilíocht an Uisce Snámha.

### Monatóireacht, Anailís agus Tuairisciú ar an gComhshaol

- Monatóireacht a dhéanamh ar cháilíocht an aeir agus Treoir an AE maidir le hAer Glan don Eoraip (CAFÉ) a chur chun feidhme.
- Tuairisciú neamhspleách le cabhrú le cinnteoireacht an rialtais náisiúnta agus áitiúil (*m.sh. tuairisciú tréimhsiúil ar Staid Chomhshaol na hÉireann agus Tuarascálacha ar Thascairí*).

### Rialú Astaíochtaí na nGás Ceaptha Teasa in Éirinn

- Fardail agus réamh-mheastacháin na hÉireann maidir le gás ceaptha teasa a ullmhú.
- An Treoir maidir le Trádáil Astaíochtaí a chur chun feidhme i gcomhair breis agus 100 de na táirgeoirí dé-ocsaíde carbóin is mó in Éirinn.

### Taighde agus Forbairt Comhshaoil

- Taighde comhshaoil a chistiú chun brúnna a shainaithint, bonn eolais a chur faoi bheartais, agus réitigh a sholáthar i réimsí na haeráide, an uisce agus na hinbhuanaitheachta.

### Measúntachtaí Straitéisí Comhshaoil

- Measúnacht a dhéanamh ar thionchar pleananna agus clár beartaithe ar an gcomhshaol in Éirinn (*m.sh. mórphleananna forbartha*).

### Cosaint Raideolaíoch

- Monatóireacht a dhéanamh ar leibhéil radaíochta, agus measúnacht a dhéanamh ar a oiread is atá muintir na hÉireann gan chosaint ar an radaíocht ianúcháin.
- Cabhrú le pleananna náisiúnta a fhorbairt le haghaidh éigeandálaí ag eascairt as taismí núicléacha.
- Monatóireacht a dhéanamh ar fhorbairtí thar lear a bhaineann le saoráidí núicléacha agus leis an tsábháilteacht raideolaíochta.
- Sainseirbhísí cosanta ar an radaíocht a sholáthar, nó maoirsiú a dhéanamh ar sholáthar na seirbhísí sin.

### Treoir, Faisnéis Inrochtana agus Oideachas

- Comhairle agus treoir a chur ar fáil d'earnáil na tionsclaíochta agus don phobal maidir le hábhair a bhaineann le caomhnú an chomhshaoil agus leis an gcosaint raideolaíoch.
- Eolas tráthúil agus inrochtana faoin gcomhshaol a chur ar fáil chun an pobal a spreagadh páirt a ghlacadh i gcinnteoireacht chomhshaoil (*m.sh. Mo Thimpeallacht Áitiúil, Léarscáileanna Radóin*).
- Comhairle a chur ar fáil don Rialtas maidir le hábhair a bhaineann leis an tsábháilteacht raideolaíoch agus le cúrsaí práinnfhreagartha.
- Plean Náisiúnta Bainistíochta Dramhaíola Guaisí a fhorbairt chun dramhaíl ghuaiseach a chosc agus a bhainistiú.

### Múscailt Feasachta agus Athrú Iompraíochta

- Feasacht chomhshaoil níos fearr a ghiniúint agus dul i bhfeidhm ar athrú iompraíochta dearfach trí thacú le gnóthais, le pobail agus le teaghlaigh a bheith níos éifeachtúla ar acmhainní.
- Tástáil le haghaidh radóin a chur chun cinn i dtithe agus in ionaid oibre, agus gníomhartha leasúcháin a spreagadh nuair is gá.

### Bainistíocht agus Struchtúr GCC

Tá an gníomhaireacht á bainistiú ag Bord lánaimseartha, ar a bhfuil Ard-Stiúrthóir agus cúigear Stiúrthóirí. Déantar an obair ar fud cúig cinn d'Oifigí:

- An Oifig um Inbhuanaitheacht Comhshaoil
- An Oifig Forfheidhmithe i leith Cúrsaí Comhshaoil
- An Oifig um Fhianaise agus Measúnú
- An Oifig um Chosaint Radaíochta agus Monatóireacht Chomhshaoil
- An Oifig Cumarsáide agus Seirbhísí Corparáideacha

Tá Coiste Comhairleach ag an nGníomhaireacht le cabhrú léi. Tá dáréag comhaltaí air agus tagann siad le chéile go rialta le plé a dhéanamh ar ábhair imní agus le comhairle a chur ar an mBord.

Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

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