

***DEVELOPMENT OF STRATEGIC ENVIRONMENTAL ASSESSMENT
(SEA) METHODOLOGIES FOR PLANS AND PROGRAMMES IN
IRELAND***

EXECUTIVE SUMMARY

***PROJECT: Development Of Strategic Environmental Assessment
Methodologies For Plans And Programmes In Ireland:***

Ref 2001-EEP/DS-(2/5)
Prepared for the Environmental Protection Agency

By
ERM ENVIRONMENTAL RESOURCES MANAGEMENT IRELAND LIMITED.

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IRELAND**

Main Report

(Please note that a Synthesis Report relating to this project can be downloaded from the Research and Development WebPages of the EPA website www.epa.ie)

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Authors:

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1 INTRODUCTION

1.1 PURPOSE OF THE REPORT

This Report has been prepared by **ERM Environmental Resources Management Ireland Limited (ERM)** and provides the findings of the research project titled *“Development of Strategic Environmental Assessment (SEA) methodologies for plans and programmes in Ireland”*, funded under the Environmental Protection Agency (EPA) Environmental Research, Technological Development and Innovation Programme (Phase 2), 2000-2006 (Ref 2001-EEP/DS-(2/5)).

On 5th June 2001, the European Council adopted Directive 2001/42/EC on the Assessment of the Effects of Certain Plans and Programmes on the Environment (“the SEA Directive” see *Annex A*). The successful implementation of the SEA Directive, which takes effect from July 2004, will rely upon “practitioners” of SEA being able to apply best-practice techniques within an overall SEA methodology that allows both compliance with the SEA Directive’s requirements and fulfils its overall purpose of contributing to sustainable development. This research project aims to develop such an SEA methodology that will meet both of these goals.

The research undertaken in the development of the SEA methodology presented in this report, draws on international experience and good practice and has used Irish case studies to demonstrate application and implementation issues associated with SEA methodology.

The intended audience for this report reflects the breadth of the application of SEA to a broad range of sectors. The report will prove useful to all those who will be responsible for undertaking SEA in Ireland (particularly persons within local authorities and state agencies and private environmental consultants), hereafter referred to as SEA practitioners) as well as those who will ensure that the SEA Directive is enforced in a timely and effective manner.

A Synthesis Report has also been prepared which summarises the Main Report. It is intended to be used as a form of guidance for potential SEA practitioners and others wanting and It is available from EPA website www.epa.ie.

1.2 RESEARCH OBJECTIVE AND TASKS

1.2.1 Overall Objective of the Research

The objective of this research project is summarised as:

“to develop a suitable methodology to be applied in strategic environmental assessments (SEA) of development plans and programmes in Ireland”.

1.2.2 Research Tasks

The objective was to be met by undertaking the following five tasks:

Task 1: undertaking a review of SEA methodologies currently being developed, established and/or applied in other countries;

Task 2: identifying the strengths, weaknesses and overall effectiveness of existing SEA methodologies;

Tasks 1 and 2 took the form of a focused review of international literature on SEA methods and systems and a concurrent analysis of their strengths, weaknesses and overall effectiveness. This review and analysis provided a concise overview of “what works” in SEA and how such techniques can be incorporated into an overall methodology. Information was also extracted from previous reviews of SEA systems undertaken by the European Commission and through discussion and information exchange with key European SEA experts. Task 2 also investigated how SEA was being applied in the Irish context by focusing on the SEAs of several Irish P/Ps that were complete or in progress. The case studies were used to record opinions on approaches to SEA and gauging the acceptance of certain approaches.

Task 3: categorising the range of plans and programmes that SEA may be applied to in Ireland;

Task 3 involved analysing the requirements of the SEA Directive and the construction of a decision support tool that would allow practitioners in Ireland to determine if an SEA was required or not.

Task 4: developing an SEA methodology suitable for application in Ireland;

Task 4 integrated the outputs of Tasks 1-3 to generate a usable, flexible and robust methodology that could be used in Irish plans and programmes and would comply with the requirements of the Directive.

Task 5: providing recommended measures on how to successfully integrate SEA into the existing structures.

Task 5 was undertaken by focusing upon the case studies and seeing how the SEA Directive could be “slotted” into existing technical and procedural requirements. The twin objectives of this task were to identify measures that were effective, in meeting the requirements of the directive, whilst integrating such measures in a resource efficient manner.

1.2.3 Project Steering Group

A Project Steering Group was established for the purposes of monitoring the progress of the Research and its outputs and to inform the researchers of any latest developments in SEA. The Steering Group comprised of the following members:

Peter Marsden -ERM Environmental Resources Management
Ireland Ltd

Paul Scott	-ERM Environmental Resources Management Ireland Ltd
Shane Colgan	-Environmental Protection Agency
Tadgh O' Mahoney	-Environmental Protection Agency
Conor Clenaghan	-Environmental Protection Agency
John Martin	-Department of the Environment and Local Government
Frank Gallagher	-Department of the Environment and Local Government

The Synthesis Report was peer-reviewed by Karen Raymond at the ERM Office in Edinburgh.

1.2.4 Case Study Analyses

In order to put the proposed methodology into context, it was proposed to select several case studies of the application of SEA in Ireland. These were chosen in consultation with the Steering Group. They were used in a variety of ways to inform the preparation of the methodology, to gauge its acceptance by potential SEA practitioners and to make it as user-friendly as possible.

The case studies that were chosen are described in *Annex B* in more detail.

1.3 STRUCTURE OF THE MAIN REPORT

Section 1 of this Report presents the purpose of the study and the research methodology, which was used during this project.

Section 2 provides a background to the area of Strategic Environmental Assessment, using the SEA Directive as the basis for the discussion of SEA principles. It includes a brief discussion of the procedural and documentation requirements. The implications of the forthcoming transposition of the directive for those who will have to undertake and analyse SEA is discussed in this section.

Section 3 provides information on what works and what does not work in SEA, based upon the review of international literature on SEA experiences in a range of countries.

Section 4 presents a factual overview of environmental assessment practice in Ireland so that the proposed SEA methodology can be placed in the context of the evolution of other assessment systems.

Section 5 focuses on the challenges posed by specific aspects of the SEA process that have been addressed by the proposed methodology.

Section 6 forms the main body of the report and presents the SEA process as a series of procedural "stages" within which, tried and tested tasks will deliver the required outputs at each stage. The entire process represents a flexible, generic yet practical SEA methodology that complies with the directive's requirements. Section 4 also describes key challenges to the implementation of the methodology. These include dealing with subjective

assessment, ensuring transparency and linking SEA to EIA. This section draws upon the outputs of the international literature review and the outcomes of the case study analyses.

Section 5 deals with an element of SEA that will prove particularly challenging in Ireland: how to effectively include stakeholders at all stages in the SEA process. It includes a discussion of how the public are brought into existing systems of plan and programme-preparation and how the SEA methodology may be integrated into such systems. Plans and programmes are hereafter referred to as “P/P”.

Section 7 describes how the requirement under the Directive to ensure that the SEA documentation is of a “sufficient quality”, may be met. The use of quality review checklists and other ways of ensuring and maintaining compliance are discussed.

Section 8 sets out the overall conclusions of the research project and provides pro-active recommendations to stimulate the development and uptake of SEA in Ireland.

Annexes containing technical information are attached to the rear of the Main Report.

Annex A SEA Directive

Annex B Case Studies

Annex C Documents consulted in the Literature Review

Annex D SEA Report Checklist

Annex E Compatibility Study of the Water Framework and the Strategic Environmental Assessment Directives

Table 1.3a Structure of the Report in relation to the Research Tasks

Research Task	Section in Report
Task 1: undertaking a review of SEA methodologies currently being developed, established and/or applied in other countries;	Sections 3 - 4.
Task 2: identifying the strengths, weaknesses and overall effectiveness of existing SEA methodologies;	Section 3 - 5.
Task 3: categorising the range of plans and programmes that SEA may be applied to in Ireland;	Section 4 and Section 6.2.
Task 4: developing an SEA methodology suitable for application in Ireland; and	Section 6
Task 5: providing recommended measures on how to successfully integrate SEA into the existing structures.	Sections 6-9.

2 STRATEGIC ENVIRONMENTAL ASSESSMENT DIRECTIVE

2.1 INTRODUCTION

This section provides a background of the concepts behind strategic environmental assessment and its benefits in the control of project-level environmental impact assessment. It continues by introducing the SEA Directive and describes the procedural and the documentation requirements within it. The proposed SEA methodology, which follows in *Section 4*, must comply with these requirements and will also add elements of good practice as described in *Section 3*.

2.2 OVERALL PRINCIPLES

2.2.1 What is SEA?

Upon examining the international academic literature that discusses SEA principles and practice, the topic of what is and what is not, an SEA is often the subject of lengthy debate. Partidário condensed some of these definitions in 1999 and this has been accepted as encapsulating the essential characteristics of SEA:

“SEA is a systematic, on going process for evaluating, at the earliest appropriate stage of publicly accountable decision making, the environmental quality, and consequences, of alternative visions and development intentions incorporated in policy, planning or programme initiatives, ensuring full integration of relevant biophysical, economic, social and political considerations” (Partidário, 1999).

2.2.2 How does it relate to EIA?

SEA shares much in common with project level Environmental Impact Assessment (EIA) in that they both aim to minimise the significant environmental impact of a proposed action. EIA is applied to development projects (eg wind farms, wastewater treatment plants, housing developments) (under statutory instruments) and is hereafter referred to as project EIA in this Report, whilst SEA can apply at a higher, or earlier stage in planning such developments (eg regional transport plans, county development plans).

The nature of the assessment process also reflects this difference in timing. Whereas project-EIA usually addresses specific, direct cause-effect relationships between the proposed development and an environmental receptor, SEA is able to stand back and look at the broader picture. SEA is better able to address cumulative effects, indirect and multiplier effects, it can also look at alternative means of meeting the same need. Overall, SEA is able to be more flexible and pro-active in nature whereas project EIA is more constrained by the scope of the proposed development that is under scrutiny and is less able to look “above the parapet”.

2.3 *DIRECTIVE 2001/42/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL ON THE ASSESSMENT OF THE EFFECTS OF CERTAIN PLANS AND PROGRAMMES ON THE ENVIRONMENT*

On 5th June 2001, the European Parliament and Council adopted the SEA Directive. It ended over ten years of political debate within the Commission. The eventual form of the directive was the result of negotiations between parties, which finally satisfied the individual Member States, and the European Commission.

Although there are no SEA guidelines, national regulations or other similar instruments as yet, which purport to apply the Directive's requirements at the national level, the language of the Directive provides a clear basis for the development of the methodology presented in this research report. The rationale for proceeding in advance of national transposition is that the SEA Directive will form the minimum set of requirements that SEA practitioners will have to adhere to.

The directive comprises fifteen articles and two annexes all of which is preceded by twenty paragraphs of preamble. The preamble sets the directive in the context of other EU instruments such as the Treaty of Amsterdam, the Fifth Environmental Action Programme, the SEA Protocol to the UNECE Convention on Environmental Impact Assessment in a Transboundary Context, the Habitats Directive, Birds Directive and the Water Framework Directive. The preamble also sets the scene for the procedural requirements that follow.

The main body of the directive then follows the preamble. *Section 2.4* below, describes the directive both in terms of its procedural requirements and the description of information that must be provided within specific documentation.

2.4 *STAGES IN SEA*

2.4.1 *Requirements of the Directive*

The requirements of the SEA Directive will have to be either integrated into existing procedures in Member States or incorporated into specifically established procedures if they currently exist. The directive specifically states that in order to avoid duplication of the assessment, Member States must take account, where appropriate, of the fact that assessments will be carried out at different levels of hierarchy of plans and programmes.

Table 2.4a summarises the Articles requirements of the SEA Directive.

Table 2.4a *Summary of Requirements set by the SEA Directive (P/P = Plan or Programme)*

Article No.	Procedure
1	Establishes the objective of the directive i.e. high level of environmental protection and integration of environmental considerations into plans and programmes to promote sustainable development.
2	Provides definitions of “plans and programmes”, “environmental assessment”, “environmental report” and “the public”.
3	Scope of the directive i.e. which types of P/P come under the directive. The article lists eleven sectors, establishes linkage to the Habitats and EIA Directives, the need to screen P/P for significant environmental effects. It also notes the excluded types of P/P. Further details are provided in <i>Section 2.4</i> .
4	General Obligations: SEA to be applied during preparation and prior to adoption of the P/P. The directive may be integrated into existing procedures or may be incorporated into new procedures. SEA may take place at different stages in a hierarchy of P/Ps and this should be taken into account.
5	Environmental Report to be prepared containing the information in Annex I, as far as is reasonable. Authorities may be consulted on scope of the report.
6	Consultation of environmental authorities and the public is required to take place at the time when the draft P/P and the environmental report are published.
7	Transboundary consultations to take place where there may be significant effects on another Member State.
8	Decision-making to take account of responses to consultation, prior to adoption of the P/P.
9	Information to be provided on the decision to include the adopted P/P and a statement indicating how the environmental report and the consultation responses were taken into account.
10	Monitoring of significant effects monitoring to detect unforeseen effects must be undertaken.
11	Overlap with other EC legislation: the SEA may be undertaken to comply with similar requirements in other Directives, but will not prejudice the requirements of the EIA Directive.
12	Information, reporting and review: Experience must be shared between Member States, there must be some form of compliance-check on environmental reports. A five year-review will be undertaken. The commission will also consider extending the directive to P/P currently funded by the EU and excluded from the scope of the directive under article 3.
13	Implementation of the Directive: Sets a deadline for transposing the directive of 20 th July 2004. P/P may not require SEA after this date if the “first formal preparatory stages” have already commenced and the P/Ps are adopted within two years of the directive’s deadline.
14	Entry into Force: The Directive entered into force when it was published in the Official Journal of the European Communities.
15	Addressees comprise the Member States.

2.4.2 Information Requirements

Article 5 of the directive requires the environmental report (the “SEA report”) to contain certain information specified in annex I. These information requirements are reproduced below:

- (a) Outline of the contents, main objectives of the P/P and relationship with other relevant plans and programmes.

- (b) Relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the P/P.
- (c) Environmental characteristics of areas likely to be significantly affected.
- (d) Existing environmental problems which are relevant to the P/P including, in particular, those relating to any areas of a particular environmental importance, such as areas designated under the Birds and Habitats Directives.
- (e) Environmental protection objectives, established at international, European or national level, which are relevant to the P/P and the way those objectives and any environmental considerations have been taken into account during its preparation.
- (f) Likely significant effects on the environment, including issues such as biodiversity¹, 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.
- (g) Measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the P/P.
- (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.
- (i) A description of the measures envisaged concerning monitoring in accordance with Article 10
- (j) A non-technical summary of the information provided under the above headings.

This information described in annex I of the SEA Directive should be collected and analysed as part of the preparation of the *draft* P/P and the “SEA Report” must be published at the same time as the draft P/P. The SEA Report may be within the draft P/P or may be a stand-alone document.

Once the P/P has been adopted, there is no obligation to produce an updated SEA Report, but a “statement” must be produced, demonstrating how the SEA Report and any responses from consultees were taken into account. So in summary there are two key documentary outputs of the SEA process as required by the directive, the “SEA Report” at the draft P/P stage and the “SEA Statement” at the final P/P stage.

2.4.3 *Converting the SEA Directive into an SEA methodology*

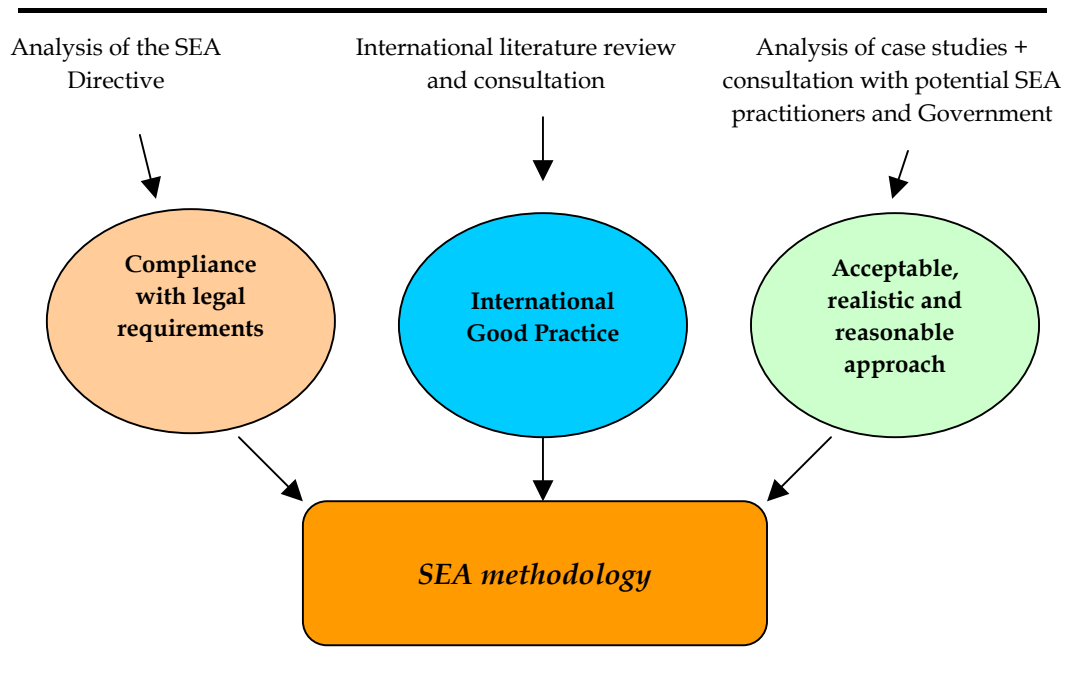
In this report, we describe the principles of SEA and the requirements of the SEA Directive, as it will apply to certain plans and programmes. The purpose of the research project was to translate the legal requirements into step by step procedures that overall, would represent a workable SEA

(1) ¹ Guidelines for addressing biodiversity issues have been adopted under the Convention on Biological Diversity (<http://www.biodiv.org/>).

methodology that could be applied to a the range of P/P in Ireland that will undergo SEA.

The requirements of the directive form only one element in the development of a successful methodology. The other two elements are international good practice and the needs of those involved in SEA. These additional two elements can be thought of as adding realism to the whole process so that it is feasible and realistic in its tasks and outputs. *Figure 2.4a* presents the approach behind the formulation of the methodology and how it relates to the tasks undertaken during this research project.

Figure 2.4a *Development of an SEA methodology*



3 *EXPERIENCES WITH STRATEGIC ENVIRONMENTAL ASSESSMENT*

3.1 *INTRODUCTION*

This section describes the results of the literature review, which investigated current practice in SEA in a range of different countries. The purpose of this section is to demonstrate “what works” in SEA and how these approaches can be incorporated into an overall methodology that can apply to Irish plans and programmes. Since there is so much material published on SEA in different countries, it was agreed with the Steering Group to narrow the scope to look at the key issues in the SEA process, which have been regarded as being particularly challenging to implement (*Sections 3.3.2-3.3.12*). Readers should note that at the time of writing, many European Member States and other countries were developing new legislation in response to the forthcoming implementation of the SEA Directive.

3.2 *SEA STATUS AROUND THE WORLD*

At present, SEA is a “statutory”¹ requirement in several countries including Canada, Denmark, Finland, France, Latvia, the Netherlands, New Zealand, Norway, the Slovak Republic, Spain, Sweden, and the United States (ICON, 2001). SEA is also a mandatory requirement for plans and programmes developed or funded by the Canadian International Development Agency (CIDA), the European Bank of Reconstruction and Development (EBRD) and the World Bank. In addition, certain countries are undertaking non-statutory SEA of plans and programmes, including the Austria, United Kingdom, Hong Kong, the Federal and State Governments of Australia and Poland either under government administrative procedures or through advisory good practice guidance.

A larger number of countries are currently either piloting SEA application or are in the early stages of undertaking their first SEA, including Ireland. As such, the review drew upon the experience of SEA at various stages of development in a wide range of jurisdictions and included information and insights into SEA development and implementation in:

- Austria
- Canada
- Czech Republic
- Denmark
- EU
- Finland
- Ireland
- Japan
- Netherlands

(1) ¹ “Statutory” is regarded as meaning that there are regulatory requirements upon authorities to undertake a form of SEA on plans and programmes.

- New Zealand
- Poland
- Portugal
- UK
- USA
- Venezuela

Representatives from authorities in Ireland who had undertaken SEA type studies were interviewed as part of the case study analyses. The full list of documents that were consulted is provided in *Annex C*.

3.3 *INTERNATIONAL GOOD PRACTICE IN SEA*

3.3.1 *Introduction*

This section presents the results of the literature review that aimed to summarise “what works” in SEA as demonstrated in SEA systems around the world. The review encountered much material on SEA principles, laws and concepts but there is still relatively little information on how to undertake successful, meaningful SEA and little information on experiences with SEA methods. This is a reflection of the evolving nature of the SEA process and also the difficulty of measuring its costs and benefits. Secondly SEA may often apply to P/P which have a long lifespan; hence case studies of SEA are therefore not as common as would be expected in comparison to EIAs with their shorter EIA timescale.

It should be noted that the status of SEA is constantly changing in countries around the world and that this section represents a snapshot of international good practice based upon the documents that were consulted early in the research project.

The review covers aspects of the SEA process that were regarded as being of specific interest for the development of a methodology. These issues were selected in consultation with the Project Steering Group (see *Section 1.2.3*). The aspects are described in the following paragraphs (*Sections 3.3.2-3.3.12*).

3.3.2 *Screening of Plans and Programmes*

To be effective, screening is a proactive activity that seeks to identify and anticipate the likely consequences of the actions and activities that will derive from the implementation of plans and programmes. At the highest level, for example, a number of countries have applied SEA to national parliamentary processes and cabinet decisions that may have secondary impacts upon the environment (ERM, 2001).

Early experience in the EU Member States showed that the provision of formal screening guidelines was successful at helping those preparing P/P to decide if SEA is required (EIA Centre, 1997). In fact the majority of countries with an established SEA system have adopted the approach of obliging specific plans and programmes to undergo SEA and it seems the only guarantee that the process will take place. SEA experts generally agree

that screening out P/P that may or may not require SEA is one of the most problematic aspects of the process.

Some systems (*e.g.* Belgium, the Netherlands, Finland) reflect the approach taken by the SEA Directive and list the sectors to which SEA should apply. These usually include land use plans, energy, transport infrastructure, industry, forestry and agriculture. However, other SEA systems do not delineate the application of SEA so clearly, especially when dealing with national policy or legislation. In some cases (*eg* the Netherlands, Denmark) the Government issues flexible guidance as to which types of P/P will require an SEA. Systems in Denmark, Canada and the Netherlands, which have well established SEA systems which also focus on the SEA of legislation or government bills within their approach to screening (Canadian Environmental Assessment Agency, 2000). These policy-level instruments are outside of the scope of the SEA Directive.

The literature review noted that there are common themes with regard to recommendations on good practice in screening and these are as follows:

- To undertake screening as early as possible so that it can commence before the plan or programme takes shape and certain options may be ruled out or expanded upon early in the process (EIA Centre 1997);
- Screening using a list of P/P does not usually work in isolation and usually requires additional criteria to screen other P/P (DHV, 1994)
- The screening stage could also be used by the agencies involved, to agree about the administrative structure and timetable of the SEA procedure and the form of any integration with the procedures involved in preparing the P/P.

Screening can also be linked to scoping (*see Section 3.3.3*) since many of the screening methods (using checklists, consultations etc) help to define the types of impacts that the plans and programme may incur on the environment (DHV, 1994).

3.3.3 Scoping

The SEA Directive requires consultation as part of scoping as a mandatory requirement. Annex I of the directive lists the information that should be presented in the “environmental report” (called an “SEA Report” in this documents), thereby indicating the expected coverage of the study. Individual countries will be expected to clarify or expand upon Annex I with their own national guidelines.

The research identified key aspects of good practice in scoping that exist in several systems:

- Scoping an SEA by consultation with authorities or public participation can be particularly effective. However, consultees may have problems dealing with the conceptual and vague nature of the SEA process and of the objectives being appraised. This is especially true when plans or programmes are being prepared for the first time.

- Scoping may be documented as a Scoping Report which, if made available to the public, allows stakeholders an early entry-point into the SEA process. This approach has been recommended in the draft UK guidance on SEA (ODPM, 2002). The draft guidance suggested that the scoping stage should follow an analysis of environmental objectives and baseline data in order to “screen” those issues that should be subject to further scrutiny. It was noted by SEA experts that the legal and procedural implications of formal documentation of the scoping process needs to be clearly defined to avoid the possibility of authorities being open to legal challenge if the Scoping report was not of a suitable quality or did not show evidence of appropriate public consultation.
- Effective scoping clearly explains why issues that are not covered have been “scoped out”. It was noted that scoping-out certain environmental issues must be treated with caution during the early stages of the SEA and it may be better not to scope out issues completely but to prioritise those issues which deserve more attention.
- Scoping methodologies may include the adoption of those that are typically employed in project level EIAs, including matrices, checklists and expert opinion. Comments from SEA practitioners have indicated that the choice of method is often down to a compromise between cost, time-efficiency and effectiveness (Anon, 2003).
- Scoping may include addressing the likely *future* baseline environment as well as its current condition. SEA practitioners noted that this is often very challenging to do successfully as in rapidly developing countries such as Ireland, where development pressures are high and the environment is subject to influences beyond the remit of the plans and programme under assessment. For example, variations to Development Plans, adoption of Waste Management Plans and the roll out of new infrastructure initiatives may all influence future changes in the baseline environment.
- Scoping often includes defining the spatial and temporal limits to the SEA study, taking into account the spatial and temporal nature of the plan or programme to be assessed. In other words, if the plan or programme being assessed covers the entire county and may form a framework for development consent over the next 10 years then this should be the spatial and temporal limits of the SEA. However, good practice in SEA requires the scope to cover other spatial areas and future periods of time that may be affected by the plan or programme under scrutiny.
- Scoping is seen to work well if it involves reviewing previous SEAs, previous plans or programmes and, where these exist, the results of any monitoring that has been undertaken for plan or programme implementation. There are many examples of effective SEA studies and research analysis into what may be regarded as good approaches to SEA. These are important tools to encourage the uptake of SEA where experience has not been accrued.

Of all of the issues covered in the literature review, “scoping” has generated relatively little discussion. This reflects either a lack of awareness of its role in SEA or a generally high degree of confidence that it is not a controversial or challenging stage in the SEA process. The fact that many SEA reports do not include details on scoping suggests the former explanation is more likely.

3.3.4 *Consideration of Alternatives*

The review of literature indicated that this was one of the most complex stages in the SEA process, although SEA systems stress its importance by ensuring that “alternatives” or “options” are addressed at the very start of the SEA process.

Studies by the European Commission (EIA Centre, 1997) have indicated that a minimum expectation to meet this requirement would be a comparison between the do-nothing scenario and the preferred option. However, in some cases, the do-nothing scenario is not regarded as a “reasonable alternative” as the P/P is required to be implemented by law. In such cases, the do-nothing scenario may act as a benchmark against which the other alternatives can be compared.

More effective methods involve generating a series of scenarios based upon changing variables in the scope of the plan or the environment (for example, population targets, different employment targets, land-use targets, etc). The use of scenarios is generally considered the most practical solution for alternative selection, and should be promoted as an essential element in the early stages of the SEA process.

Another approach has been to require the assessment of the most environmentally benign alternative or the alternative that is most environmentally sustainable. The use of the latter should ensure that the preferred alternative is also the best balance between environmental and socio-economic priorities. This however requires an integrated approach. In 1994, an EC funded review of SEA methodologies identified that most SEA report considered different options and recommended that the options should reflect the essential choices to be made by the decision makers.

The draft UK guidance provides a good example of how different approaches can be used in this stage. It puts the process of choosing between options, early in the SEA process and identifies a range of approaches of going about comparing options. It also advises “to keep the big issues clear, the options considered at this early scoping stage should not be elaborated in too much detail”. Transparency and robustness of choices is also advised in this new guidance (ODPM, 2003).

The question of how many alternatives to consider and in what depth is an important issue that remains to be resolved at the European level. In an ideal situation, all reasonable alternatives would be analysed to the smallest possible level of detail and all alternatives would be assessed equally. However, this would result in a lengthy and expensive SEA process and would be technically challenging. It is generally accepted by most SEA experts and practitioners, that only a small number of reasonable alternatives

can be explored in detail and assessed at a coarse level to allow preferred alternatives to be identified. The preferred alternative may then be analysed in detail and assessed in finer detail.

There are only a few SEA systems that have formalised this stage. The Netherlands Commission for EIA requires a description of alternatives, including one that is best from an environmental viewpoint (since quite often there are other alternatives which are better socially and economically). The Austrian SEA system requires that alternatives are generated and addressed during the scoping stage (Arbter, 2000). Similarly in Portugal, the generation of alternatives follows the scoping of issues and baseline information and then the practitioner can concentrate on choosing between alternatives (Partidario, 2002b).

3.3.5 *Types of impact assessment*

As the SEA process has evolved, two broadly different approaches to applying SEA principles to plans and programmes have emerged. These two approaches are often termed “objective-led” and “baseline-led” assessment; definitions of the two approaches are provided in *Box 3.3a* below.

Box 3.3a ***Baseline-led versus Objective-led SEA (ICON, 2001)***

Baseline-led SEA: the objectives of the plan or programme are assessed in terms of their impact upon the environmental baseline conditions in the area where it will be applied. It therefore requires the compilation of data on the state of the environment and likely changes to the environment in the future.

Objective-led SEA: differs from baseline-led SEA in that it predicts and evaluates the impacts of the P/P upon environmental objectives, standards or policies for the area rather than the baseline environment itself (ICON, 2001).

The SEA Directive requires a description of environmental sensitivities and the environment where the P/P will be implemented and therefore is primarily baseline-led. However, there is also the requirement to ensure that environmental objectives and standards are addressed in the SEA Report. The directive therefore contains elements of both approaches.

An effective SEA methodology does not necessarily have to fall neatly into these two definitions. The best approach would be a combination of both (i.e. parallel assessment of the P/P against the environmental objectives and the baseline environmental data). For example, the approach suggested in the “*Guidance on Environmental Appraisal- toward sustainable rural development in the context of SAPARD*” (ERM, 1999) advises that allowing the appraisal to take account of the baseline information first allows the plan or programme to be tailored to, and take account of, needs and requirements of the target area. After this baseline-led part of the assessment, environmental and sustainability objectives can be incorporated into the plan or programme and undergo an objective-led assessment. Similarly, the draft UK guidance adopts an approach that includes the setting of environmental or sustainability objectives, which form the basis for the collection of baseline information. The objectives may then be refined based upon the baseline data (ODPM, 2002).

Most SEA systems (including Portugal, Canada and the UK) have relied upon the baseline-led approach in the past, as it bears the closest resemblance to project-EIA and is hence easier to integrate into administrations that can relate to the approach. It is however, the most resource-intensive as it requires a great deal of data collation (rather than collection) but portrays the most realistic scenario of the current environmental conditions. The public are able to relate to the results of the SEA more easily, when it makes reference to the actual environment in which they live and work.

Objective-led SEA is becoming more popular amongst SEA practitioners as it is faster and can be undertaken using in-house expertise in small teams. It can also allow the plan or programme preparation process to proceed without waiting for environmental data to be collated and analysed.

However, the results of objective-led assessment are less easy to apply to real environmental conditions on the ground and the public cannot easily relate to impact assessment reports that are based upon objectives alone.

Ideally, an integrated approach using both methods may be the solution but will not remove the issues such as the resources required to complete the assessment (ICON, 2001).

3.3.6 *Prediction of Impacts and the Management of Uncertainty*

The prediction of impacts in project-EIA often involves technical methods such as atmospheric or aquatic dispersion modelling, visual impact assessment and the collection of large amounts of detailed data. The predictions usually result in predicted measurements of emissions, noise, materials and other quantitative measurements.

International experience has shown that the SEA process does not use such methods for the prediction of impacts and usually does not produce quantitative predictions. The nature of the objectives and proposals contained within the plan or programme are such that they do not contain as much detail as would be required to make detailed and accurate predictions.

As you move up the decision-making ladder, from development projects to programmes and plans finally to policies at the highest level, the amount of certainty in the way that the environment responds to development pressures *decreases*. In other words, with project EIA, practitioners can make reasonably accurate predictions as to how the environment will respond to the development proposal. With SEA, the environment is subject to natural and anthropogenic influences ranging from sea-level rise to population movements and it may respond in a variety of unpredictable ways. The SEA process must be able to adapt and incorporate the vague and imprecise nature of the plan or programme and not let it become a hindrance during consultation and public participation processes.

Uncertainties in impact predictions and evaluations should be acknowledged, analysed and reported. Several technical methods for dealing with uncertainty (“multi-criteria analysis” of scenarios, the application of

“sensitivity analysis” techniques, etc.¹) may be successfully applied but it should be noted that they are unlikely to be understood by the entire readership of the SEA documentation. It is better to identify the uncertainties, clearly understood and manageable than to complicate the SEA by trying to introduce more technical procedures.

Despite the recognised importance of addressing uncertainty, few formal SEA systems require the SEA to discuss the uncertainty in the process. A number of commentators have stressed the need for the formal treatment of uncertainty as a basic requirement of each SEA report (EIA Centre, 1997).

However, practitioners should not be dissuaded from using viable prediction techniques since tools such as GIS, traffic and noise modelling can be particularly useful in quantifying effects. International good practice is to recognise that SEA should “use the right techniques at the right time and recognise that these will change” (IAIA, 2002a).

3.3.7 Consultation and Public Participation (CPP)

It is the issue of how to *successfully* consult the public and other key stakeholders during the SEA process that has generated the most debate in the literature. An efficient approach is one that ensures that consultation and public participation adds value to the SEA process whilst ensuring that it does not cause undue costs and delays.

Key questions that may determine its effectiveness are:

- When should consultation and public participation take place?
- Which techniques are most successful?
- Who should be involved in the process?

In Austria, the SEA of the Tennegau Regional Programme in 1998 indicated that the public were involved from the earliest scoping stages to the drafting of the Plan at the end of the process. The consultation process was led by Regional Government and was funded by the Ministry of the Environment (Federal Ministry of the Environment, 1998). It was generally acknowledged that such an approach was extremely successful, both in terms of the integration of environmental and social concerns into the programme development and in developing a regional programme that enjoyed high levels of public consensus.

An example from France showed that a successful approach was that applied during the SEA of the Master Water Management Plans for Ardour. An extensive five-year programme involved forming a commission composed of public bodies, stakeholders and elected representatives. It also provided most of the baseline information for determining socio-economic impacts (ERM, 2000).

At the other extreme, an example from Greece of an unsuccessful approach to consultation was where an environmental assessment of a highway

(1) ¹ Refer to <http://www.dtlr.gov.uk/about/multicriteria/index.htm> for more information on these techniques.

development which was led by NGOs, was undertaken at a late stage. So late in fact, so that specific aspects of the original design were not approved until late in the process as the NGOs pressurised the decision-makers to force changes to be made. The literature review did not find any examples of where consultation and public participation was unusually poor. However, this may be that consultation in SEA has not been given as much attention to date as project-EIA (ERM, 2000).

In Japan, research results have shown that officials consider consultation to be acceptable after the choice of a plan but not from the outset of the planning process. Successful consultation relies upon being able to offer the public something tangible to comment upon, without offering a foregone conclusion (Uesugi, 2000).

A review of SEA practice across Europe published by the EU in 1997 concluded that *informing* the public is not the same as being receptive to their comments. Consultation needs to be a pro-active task; the reactions of the public should be stimulated and encouraged but it should not be a public relations exercise (EIA Centre, 1997).

A wide variety of consultation techniques are available and there have been volumes written about the advantages and disadvantages of all of these methods. Practical application of the techniques has determined that the approach should be consistent with the potential degree of concern and controversy of the proposal. In the Netherlands, the EIA Commission leads guidance on the consultation and the actual public contact itself, thereby retaining an independent presentation of the proposal to the public (Commission for Environmental Impact Assessment, 2002).

Recent technological developments have led to the use of the Internet (often through the establishment of dedicated websites) in many SEA studies. This low-cost and accessible mean of communication is likely to increase in popularity as digital connectivity becomes more prevalent. However, face-to-face contact should be encouraged as most NGOs and environmental groups will wish to discuss issues with the authorities responsible for the plan or programme and the use of exhibition stands, glossy brochures or websites are not seen as being pro-active, nor are they useful for SEA purposes.

A range of emerging techniques are becoming more popular as international experiences are analysed (IAIA, 2002a):

- Potentially sensitive issues may “block” the SEA process but can be addressed early, with the use of independent arbitrators accepted by all parties.
- Access to the SEA process can be facilitated via regular updates on bespoke websites including publishing updated plans or programmes and draft SEA reports.
- It is preferable to avoid ‘DAD’ – decide, announce, defend. Apply ‘DDD’ - discuss, decide, deliver.
- Information presented has to be simple, precise and to the point.

- For SEA of transport plans or programmes, the geographic scale of assessment is important and radically different approaches to consultation are required compared to local project level procedures.

Key challenges such as timing and approach still remain and may have to be adapted to, rather than tolerated or avoided. Stakeholders can often find plans or programmes too abstract and widely based to relate to the implications of the plan or programme before them. They may be used to dealing with controversial site-specifics issues, which may only arise at the project-EIA level and find it more confusing to deal with issues that may occur 5-10 years in the future.

SEA may not be able to prevent certain types of objections being raised during project EIA, even if the public have been effectively involved at the strategic level. Nevertheless, classic concerns over consultation at the SEA level can all be addressed if there is the political will to do so.

To conclude, the latest international advice maintains the emphasis upon effective consultation as a means of enabling effective and democratic decision-making. Environmental authorities and other stakeholders should be consulted throughout the process from the start. If at all possible, SEA practitioners should identify where consultation and public participation opportunities currently exist and aim to integrate the requirements of the SEA process into the existing structure. *“SEA only works within a supportive culture, if you can’t support it then tailor it into something that you can support.”* (IAIA, 2002a). The outputs of consultation add credibility to the largely subjective process of impact prediction and can be useful in supporting judgements made throughout the SEA process.

3.3.8 Quality Check of SEA Reports

Current SEA literature contains few examples of studies into the development of appropriate means of managing and assuring the quality of the SEA process and of the outputs of the process. Although the SEA Directive requires the application of quality control mechanisms to SEA documentation, in practice there is much yet to be clarified in terms of retaining an independent opinion on SEA report quality and how to determine whether an SEA report is acceptable or not.

However, formal procedures for quality control have been developed in the SEA systems implemented in the Netherlands, Canada and Denmark.

- The Netherlands EIA Commission formally reviews the quality of SEA reports and allows other environmental agencies to contribute to this review.
- In Denmark, the Environmental Protection Act established the Danish Environmental Protection Agency as the principal QC body. However, the Danish EPA soon found difficulty in determining the accuracy of SEA reports when the impact predictions made in them were vague in nature (ICON, 2001).
- The Canadian SEA Cabinet Directive (1999) provides non-specific requirements for the SEA to be forwarded for departmental

evaluation and review. The Commissioner for the Environment and Sustainable Development oversees the overall implementation of the greening of policies, plans and programmes and therefore the effectiveness of the Cabinet Directive (Canadian Environmental Assessment Agency, 2000).

European Commission research has advised that the SEA process and report review should be iterative; with draft SEA reports being repeatedly reviewed by an independent agency (DHV, 1994). A qualified and independent input, both in reviewing and scoping, is essential. A variety of review systems and review agencies could be chosen *ad-hoc* for each particular SEA-type, or the review process can be institutionalised within one umbrella organisation.

The UK advice on quality assurance, as suggested by draft guidance, suggests that “ *the quality of the SEA process should be assured through the choice of a good SEA team, the collection of appropriate data, the use of effective prediction techniques, consultation, and especially a willingness to integrate the SEA findings in the plan-making process*” (ODPM, 2002). However, it is clear that despite a focus upon quality of the methodology, most quality-review systems involve a review of the output documentation.

3.3.9 *Horizontal and Vertical Linkages*

One of the fundamental aims of the SEA process is that it will result in the incorporation of environmental and sustainability issues into a range of related plans and programmes and thereby will lead to the delivery of projects that are defined and delivered within an integrated environmentally sustainable framework.

Horizontal linkages are deemed to be those between authorities at the same level of assessment *e.g.* between counties when dealing with County Development Plans. Horizontal linkages with regard to SEA are deemed as good practice as they encourage the dissemination of SEA experience and also ensure that SEAs of linked P/P are consistent and compatible.

Vertical linkage or “*tiering*” as it is sometimes known, puts plans, programmes and development projects into a hierarchy whereby the policies (which are exempt from the SEA Directive) occupy the highest tier and trickle down their aims and objectives to be delivered by the plans and then programmes and finally projects at the bottom level, which are assessed using project EIA. Such linkages are absolutely essential if the benefits of SEA are to be manifested as sustainable developments.

The review has shown that there are several ways in which SEA can be linked to project-EIA and that there are techniques and approaches that may bring a degree of measurable success.

The SEA Directive provides its own link to the EIA Directive by its requirement for the SEA of plans or programmes that would “*form a framework for development consent*” of projects that are listed in the EIA Directive and hence may require EIA (European Parliament and the Council of the European Union, 2001).

Whilst the literature strongly promotes the concept of “tiering”, there is little, if any, evidence for any formal steps being made to follow the benefits of SEA down to EIA. The principal messages from the literature review include:

- Policy-SEA is the only SEA type that has the full range of potential benefits, avoids NIMBY-type objections and can therefore involve stakeholders without encountering NIMBY issues. Plan and Programme SEA are then necessary to link policies to projects. A full SEA system requires assessment of all three types (Fischer, 2000a).
- Plan-SEA makes geographic decisions; programme-SEA makes priorities or ranks projects in terms of environmental acceptability (Fischer, 2000a).
- Horizontal tiering occurs *within* similar administrative levels (e.g. within County Councils). Very little documentary evidence can be found for this despite the fact the directive requires the environmental report to provide detail on the plan or programme’s relationship with other relevant plans and programmes. The UK draft SEA guidance has provided advice on how this may be approached (ODPM, 2002).
- Infrastructure plans and programmes show a clear example of where tiering exists and how SEA may contribute to facilitating the process. The following levels of planning and decision-making can be distinguished:
 - network level, to determine whether and how the nodes in a network in a jurisdiction and its neighbours should be connected to each other by infrastructure;
 - corridor level, to determine the best way to connect two nodes to each other; and
 - project level, to determine the detailed location and design of the proposed infrastructure.
- Using the same assessment objectives and indicators at each level of assessment in SEA may increase the transparency of results. In Ireland, the Government published its *Sustainable Development: Strategy for Ireland* document in 1997 and five years later published *Making Ireland's Development Sustainable: Review, Assessment and Future Action* (2002). These may assist SEA practitioners in developing criteria that could be used as benchmarks against which to assess the P/P (See Section 5). There are also other indicators discussed in sectoral reports (e.g. Transport, Rural, Water, Air), which are published annually.

The case study analyses included addressed how practitioners can select targets and indicators. The draft UK guidance presents a table of environmental objectives and corresponding indicators based upon national strategies for sustainable development. Such an approach could be adopted in Ireland.

- Delays may be less likely when controversial planning applications are submitted. Nevertheless, as stated before, it is important to realise that stakeholders will raise key issues such as suitability of location and the local environmental impact at the project level for controversial projects such as landfill sites, wind farms and road schemes for example. SEA can address these same issues but cannot overrule the statutory development control system in making its decisions on the suitability of proposed projects.
- To avoid confusion and to resist the temptation to address similar issues in project EIA and plan or programme SEA, SEA must be seen to be a process that is independent of project EIA and one that has evolved as a separate procedure.
- One of the most effective ways of linking SEA to EIA is for the SEA team to predict the types of projects that may be proposed as a result of implementing the P/P. The authority is then able to identify how the environmental impacts of these projects may be avoided or minimised at the strategic level of assessment. For example, an SEA of a Waste Management Plan would involve envisaging what types of waste disposal facilities would be proposed and then determining what types of impacts these may have and how they can be avoided by making changes to the P/P.

3.3.10 *Integrated Assessment*

The term “integration” can be confusing and can have different meanings in different circumstances. For example, it can mean the integration of social, environmental and economic issues into the overall SEA process but it can also mean the integration of the SEA process into *existing* systems of plan or programme preparation.

Whether or not to integrate socio-economic impacts in SEA should be decided depending on the existing assessment culture. When the SEA is conducted separate from other assessments, close co-ordination between the different assessment teams should be provided.

In the Netherlands, the degree of integration is restricted by a requirement that the social impacts stemming from environmental effects are included in the SEA. The SEA Directive implies that Member States should adopt a similar approach, with impacts upon human health, population and material assets being included within the scope of subjects to be addressed.

The draft UK guidance advises that care should be taken to ensure that the social and economic considerations do not dilute the environmental considerations. The guidance adds that this may be particularly important for plans such as waste plans whose objectives may not encompass the range of topics covered by the SEA Directive (ODPM, 2002). This will be explored further during the case studies, one of which will focus upon SEA of waste management plans.

3.3.11 Monitoring of Impacts

The SEA Directive requires the monitoring of significant environmental effects as part of the SEA process. This comes after several years of research undertaken by a range of bodies that have advocated the usefulness of monitoring at the EIA level of assessment, based upon the experiences of other Member States (notably the Netherlands).

SEA experts have recommended that the monitoring regime should be designed early in the SEA process so that it is compatible with the assessment criteria and *vice versa*. An effective approach that is used in several systems, including the UK, is that monitoring should use the indicators that were used to describe the baseline environment (ODPM, 2002).

A recent focus upon EU transport infrastructure (ERM, 2001a) suggested an environmental action and monitoring plan could be proposed in the SEA report that should include:

- Implementation and Monitoring Framework for the strategic competent authority to monitor plan implementation, with reference both to its objectives and to its environmental impacts;
- Environmental Planning Guidance, indicating which decisions at lower tiers require an SEA or an EIA, or how screening and scoping could take place. This is a useful way of linking the SEA and the EIA processes.

In the Netherlands, there is much evidence of the successful monitoring of impacts at the EIA level. Post-decision monitoring is mandatory for SEA, but is not mandatory for “environmental tests” or “e-tests¹” of legislation (Commission for EIA, 2001). E-tests were Dutch Environment Ministry developed the “environmental test” to carry out this assessment of government policies and legislation. The test pays particular attention to the consequences of draft legislation relating to energy consumption and vehicle use, the use of raw materials, atmospheric, soil and surface water emissions and land use. It has been suggested that the E-test could be used in Ireland for the evaluation of national policies (NDP Evaluation Office, 2003).

In Canada, monitoring measures are required to monitor environmental effects of the proposed action, or to ensure that the implementation of the proposed action supports the Department or Agency’s sustainable development goals.

The usefulness of post-auditing of environmental impacts is often ignored in discussions on the use of monitoring data. After the collection of monitoring data is complete, it should be used to determine the accuracy and validity of the predictions and choices made in the SEA and in the P/P. Such post-

(2) ¹ E- Tests: These are ‘environmental test’ to carry out the assessment of Dutch Government polices and legislation by the Dutch Environment Ministry. The test pays particular attention to the consequences of draft legislation relating to energy consumption and vehicle use, the use of raw materials, atmospheric, soil and surface water emissions and land use.

audits will be vital in ensuring that that the accuracy and quality of the SEA process is improved.

3.3.12 *Time and Cost Issues*

SEA may be able to prompt time and cost savings by preventing environmental damage throughout the plan or programme process, by reducing the cost at EIA level and by enhancing the “acceptability” of the action (and thus shortening the authorisation process). These benefits need to be demonstrated, and put into perspective with any existing disadvantages/costs. Time and cost of SEA will be gradually reduced by increased experience, which is again an argument that underlines the importance of putting SEA into practice (EIA Centre, 1997).

Research undertaken by Therivel in the UK from 1995 to 2001 noted that the latest average time taken to undertake environmental appraisals of County land-use plans in the UK is approximately 30 days with a range of about 2 to 200 person-days. When looked at in more detail, SEAs which resulted in making substantial changes to plans, took nearly 20 person-days longer than those which did not. Similarly, those that took place during the plan-preparation process rather than after completion of the plan took on average 16 person-days longer. Key advice to practitioners from this study included ensuring that there is sufficient time and resources and not to underestimate the amount of work involved (Therivel, 2003).

Work by the UK Department of Environment, Transport and Regions that involved a Regulatory Impact Assessment of the SEA Directive estimated that the 1999 costs of “sustainability appraisals” (a form of SEA practiced in the UK for land-use plans) ranged between £10,000 and £25,000 (€16,000-€40,000) for 50-60 staff days and additional data acquisition. The effect of the Directive, which would formalise many of the data acquisition and consultation stages of sustainability appraisal, could add up to £5000 (€8000) accounting for 15-25 person-days (Therivel, 2003). It should be noted that not only do these figures show a wide numerical range (which reflects the different scales of P/P being assessed) but that they also relate to sustainability appraisals which has a broader remit than that required by the Directive.

Case studies of experiences of transport SEAs in Sweden revealed that SEA provides a more efficient approach to both policy development and implementation by avoiding sub-optimal decisions and costly opposition processes. SEA also can also improve communication and collaboration between the various institutions involved in transport, land use and environmental issues. In order to reduce costs, SEA needs to be introduced in a way that minimises duplication and maximises synergies and therefore should be slotted into existing procedures rather than creating a parallel process.

4 IRISH EXPERIENCE WITH IMPACT ASSESSMENT

4.1 INTRODUCTION

This Section describes the evolution of environmental impact assessment at a project- and strategic-level in Ireland. The purpose of this Section is to provide a historical context for the SEA methodology that is presented in *Section 6*. The information has been based upon reviews of practice in EIA in Ireland and communications with those who were involved in the development of EIA practice in the State in the last twenty years.

4.2 PROJECT- ENVIRONMENTAL IMPACT ASSESSMENTS

The first formal requirement in Ireland for the production of “environmental impact studies” (EISs) was embodied in the *Local Government (Planning and Development) Act 1976*. The range of projects to which the requirement applied was extremely limited, particularly when compared with the later EU EIA Directive. The EISs requirement applied only to those developments, which required formal planning permission (under the existing planning legislation of the time), which might result in gaseous, liquid or noise emissions and where the cost of the development exceeded five million Irish pounds (at 1976 rates, a major project investment). The legislation did not define or specify the scope of the EISs and exempted developments included all local authority developments within their own area, agriculture, forestry, harbour authority developments and offshore developments. In effect, the application of the first EIA regulations was limited to large-scale private developments, at a time when most large developments were public sector funded; this resulted in public sector projects being progressed with little or no environmental provisions and outside the limited provisions that the 1976 Act established for public scrutiny (Scannell, 1982).

In response to the EU EIA Directive, which was required to be transposed into national law by 1988, the Irish authorities published two non-statutory circulars that provided local and state authorities with broad guidelines on the implementation of the directive. Subsequent Supreme Court judgements stated that this approach was inadequate and that full implementation of the directive required that appropriate regulatory instruments were prepared and introduced. In 1989, the Irish authorities issued two sets of regulations that implemented the Directive into Irish law. These came into effect in February 1990.

A five-year, Europe-wide review carried out for the European Commission in 1993, noted that Ireland had set relatively low thresholds for projects requiring EIA and, as a result, there was a tendency for a high proportion of small projects to be dealt with by the EIA system. Although the overall EIA process in Ireland was deemed to be operating to the letter of the Directive, there were some deficiencies noted. These included a lack of definition in the application of screening criteria (and a subsequent over-reliance on thresholds) and the inadequate assessment of cumulative impacts; the

review also noted that the standard of EIA submitted and approved in Ireland was frequently unsatisfactory (CEC, 1993).

Other studies have reviewed the quality of the environmental impact statements, and supporting documentation, that have been submitted since 1990 under the Irish system; most notably by Dancey (1993) on the overall quality and Dalton (2000) on the nature of impact prediction methods, both of whom noted that EIA Reports tended to lack objectivity, value judgements and accuracy.

However, the quality of EIA Reports has improved as a result of formal EIA guidelines (EPA 1995) that were issued by the newly-established Environmental Protection Agency (EPA) in 1995; these guidelines have been updated and a revised set has recently been published (EPA 2002).

4.3 THE NEED FOR SEA

Over the past five years a number of reviews of environmental administrative and legislative mechanisms have been undertaken and, at the strategic level, the integration of environmental issues into plans and programmes has gained renewed importance. This refocusing has come about, in part, as a direct consequence of Ireland's record of compliance with EU Law, which had led to the EU's environment and regional policy Commissioners indicating that applications for Structural Funds would not be processed unless Ireland nominated a sufficient number of areas to be included in the EU's Natura 2000 network¹. However, a number of other developments are also contributing to Ireland's drive to improve the integration of environmental requirements into administrative and legislative systems:

- The performance of the Irish economy over the past decade has seen a significant expansion of available investment in physical and administrative infrastructure. The Irish Government has responded to the need for forward planning by commissioning and implementing a series of strategic level planning strategies, including the National Development Plan (NDP) and the National Spatial Strategy (NSS), which will eventually be supported and supplemented by a range of long term planning strategies developed at the Regional, County and Municipal levels. These strategies have been increasingly subjected to strategic-level environmental assessment through internal review and the NDP and Operational Programmes have undergone independent "Eco-Audits" (see *Section 4.4*).
- The expansion of infrastructure investment, particularly the planning and implementation of the national road development strategy, has raised widespread public concern, particularly with regard to the

(3) ¹ Commission Decision of 28 December 2001 adopting the list of sites of Community importance for the Macaronesian biogeographical region, pursuant to Council Directive 92/43/EEC

terms of reference and strategic assumptions that are informing the formulation and roll out of these programmes.

- There are increased expectations among the public with regard to the transparency of decision-making and the public accountability of decision-makers, the expansion of active public participation in the planning process and the formal integration of wider community and environmental considerations into the evaluation and determination systems.

These various strands (external pressure regarding the implementation of environmental safeguards, increasing internal, domestic scrutiny of policy formulation and decision-making and the prioritisation of strategic level planning within the function of Government) have produced a set of changed circumstances within which the development of SEA procedures and mechanisms will take place.

4.4 SEA IN IRELAND

The implementation of SEA requirements in Ireland will build upon the Irish experience of undertaking environmental assessments at the national policy level, principally the commissioning of pilot “Eco-Audits” of the National Development Plan 2000-2006 and of other Operational Programmes for investment in physical infrastructure. The Eco-Audit has proven to be a simple but effective step in the practice of assessing the implications of national development policy and the pilot audits have demonstrated the value of strategic-level appraisal of environmental impacts and have shown that it may be possible to transfer some of its tools (especially the policy scoping checklist) to other levels of decision-making. Although these eco-audits lacked many of the key procedural steps of the SEA Directive (particularly with regard to public participation), they have introduced the concept of strategic-level environmental assessment to public sector professionals and have tested a range of tools that might eventually be developed for SEA purposes.

The Eco-audits were recently the subject of a formal evaluation that was carried out in behalf of the NDP Evaluation Unit in 2003. The evaluation highlighted the similarity of the audits to the SEA process but had a greater emphasis upon retrospective “proofing” or “compliance-checks” rather than any kind of systematic prediction of environmental impacts. The evaluation also identified that the contribution of the eco-audits to the overall Operational Programmes and Plans was “marginal” and that this could have been caused by unclear guidelines and the constraints caused by limited time and personnel skills. The study recommended that the Eco-audits could be enhanced and improved by adopting an approach consistent with the SEA process as it has been applied in the UK (as environmental or sustainability appraisal) or in the Netherlands (as the “E-test”). Most importantly, the evaluation recommended that in order to adapt the present eco-audits to make them more SEA-like, standardised terminologies and methodologies should be adopted and piloted at the national policy-level (Scott *et al*, 2003).

In parallel to the Eco-Audits, the Heritage Council, responsible for preservation and enhancement of natural heritage, has developed a heritage appraisal process based upon the UK environmental appraisal procedures used for development plans. The appraisal process is designed to be applied to development plans and has been successfully piloted on the Draft County Donegal Development Plan (Heritage Council, 2000). The appraisal process is closer to meeting the requirements of the SEA Directive than the Eco-audit, but also lacks specific public participation and documentation requirements. Whilst there exist obligations to consult the public on the content of the draft plan, there are no requirements extending this to the content of other reports. Interestingly, the heritage appraisal guidelines include advice on the monitoring of impacts during the implementation of the plan, an important, and particularly challenging, element within the SEA Directive requirements.

In anticipation of the adoption of the SEA Directive, the Irish Government has incorporated a requirement for the SEA of specific land-use plans within the Planning and Development Act, 2000. Under the Act, Development Plans, Local Area Plans and Regional Planning Guidelines are required to contain information *“on the likely significant effects on the environment of implementing the plan”*. Similarly, Planning Schemes for Strategic Development Zones will also have to undergo a form of assessment, although the Act requires that the information to be provided is the same as that for project-EIAs. It is likely, therefore, that the land-use planning sector will be the first sector to focus on how to address the issues raised by the SEA Directive in order to meet the requirements of the Planning and Development Act, 2000.

The Act is now fully in force and already a handful of local authorities have published environmental assessments as annexes to Development Plans. Examples of these assessments are provided in *Section 6* and in *Annex B*.

5 KEY CHALLENGES OF THE SEA PROCESS

5.1 INTRODUCTION

This section describes the key challenges that face those responsible for the implementation of the directive and also those who will carry out SEAs and those who will be involved in consultation activities. It aims to flag those tasks that are often perceived to be difficult. Participants in the case studies and other SEA experts consulted during the research project have highlighted these SEA tasks as being particularly challenging (Lee, 2003; Therivel, 2003; Fischer, 2003).

The proposed SEA methodology, which is described in *Section 6*, has incorporated the key challenges into its approach.

5.2 ASSIGNING ROLES AND RESPONSIBILITIES

The directive is deliberately vague regarding the allocation of roles and responsibilities in the SEA process, leaving the detail to be decided by the individual Member States. The roles that require identification are discussed below.

Producing Legislation and Guidance

Since the SEA Directive will affect a broad range of sectors, it is likely that different Government Departments will have to prepare new legislation or amend existing statutory instruments to deliver the requirements of the Directive. It is regarded as good practice in SEA to “slot” the SEA procedures into existing requirements and it is likely that these statutory instruments may currently show great variation in their detailed requirements. As a result, SEA may be easier to slot into some sectors than others.

A similar situation exists with regard to the publication of technical guidelines, which will support the implementation of the Directive. Although it is understood that the Department of Environment, Heritage and Local Government (“DoEHLG”) aim to produce guidelines targeting SEA of the land-use planning sector’s activities in the autumn of 2003. The task of producing guidelines for other sectors needs to be addressed by relevant Government Departments.

Preparing SEA Reports

Experience from similar institutional systems in the UK and elsewhere has shown that the authority that prepares the P/P also undertakes the SEA (i.e. there are no independent SEAs undertaken). Whilst this may seem the best option, there are often quality issues related to the practicalities of undertaking SEA, both when set in a restricted time-schedule and when undertaken by staff not acquainted with SEA-type methods.

Several studies in the UK have demonstrated that the optimum profile of an “SEA team” (in terms of leading to effective SEA) is, firstly, made of more

than one person and secondly, will often take the form of a central team including staff preparing the P/P, with specialist support from consultants who undertake the majority of the SEA tasks. This model allows a close knowledge of the P/P to enter into the SEA but also permits the consultants to assist in introducing certain environmental issues into the process that may otherwise have been overlooked (Therivel, 1995, 1998, 2002). Consultants may also be able to shoulder the load of the SEA from the staff who are concerned with P/P preparation and hence ensure that the SEA process does not hinder other procedures. So, in conclusion, although there may be time and resource constraints on the authority preparing the P/P, they need to be closely involved in the SEA process in order for it to be fully integrated.

Several participants in this study have suggested that community concerns may be brought to the fore at a late stage in the SEA process (*eg* during adoption of the final P/P) once SEA becomes established in Ireland. The integration of community concerns at the “early and effective” stages in the SEA process is vital and those who represent the community and its needs must be brought into the process and must play a central role to ensure that such issues do not “surprise” the SEA team at the end of the process.

Determining Quality of SEA Reports

Article 12 of the SEA Directive requires the Member States to ensure that the SEA reports are of “a sufficient quality” to meet the requirements of the Directive. It suggests that meeting this requirement may also involve taking measures concerning the quality of SEA reports.

The key issues that need to be resolved are:

- Identification of those responsible for verifying SEA reports.
 - Options include establishing a new independent review body; using existing authorities to verify SEA reports (*eg*. An Bord Pleanála) or requiring that the authority preparing the P/P reviews its own SEA.
- Action to be taken in the event of inadequate quality of SEA Reports.
 - Options include stating corrective actions to be taken and re-submitting the SEA Report or allowing the SEA Report to be made available to the public with the Reviewer’s comments attached.
- Timing of quality review in the context of the SEA process and the P/P preparation process.
 - Options include reviewing the SEA Report in a draft format prior to publication or review of the publicly available document;
- Criteria against which the SEA report will be reviewed.
 - Options include review against the Directive and the regulations, if appropriate or review against additional criteria that reflect the effectiveness of the SEA report.

These issues currently remain unresolved. Consultation with the UK¹ and Irish Government has suggested that “internal” quality control measures will be installed as part of the implementation of the SEA Directive. However, in order to avoid the inevitable bias that may arise when reviewing their own P/Ps, SEA practitioners could choose to use independent consultants to review reports. However this is still open to questions on the bias that may arise no matter how “independent” a hired consultant claim to be. Certain Member State Governments may back up internal quality checks with quality reviews undertaken by a Planning Inspectorate or similar body and by the region-based Government Offices. A proposed methodology that can be used to check the quality of SEA reports is described in *Section 7*.

Policing the Requirements

During the research undertaken for this project, several participants raised the question of who is going to enforce the Directive and its requirements. Although it is clear that it is the responsibility of the Irish Government to ensure that the SEA Directive is transposed in time and that SEA practitioners comply with the Directive after this point, it is less clear as to who will decide if P/Ps require SEA at all.

In project-EIA it is the responsibility of the relevant consent authority (generally the local planning authority) to ensure that projects, which require mandatory EIA, are subject to EIA. Consent Authorities are also obliged to ensure that EIA is carried out in the case of sub-threshold projects that are likely to have significant effects on the environment.

In the case of SEA of local authority plans, the proponent and the decision-maker are the same. If SEA is to remain a transparent process then the decision to undertake an SEA or not must involve some external scrutiny. The directive allows for this issue in Article 3(7), which requires the result of certain screening decisions to be made public. There will be a need for this decision to be checked and there may be a role for An Bord Pleanála to operate this role.

In addition, it is highly likely that once national and local non-governmental organisations and other bodies become aware of the requirement for SEA for certain plans and programmes, there will be an intense level of scrutiny placed upon how P/P proponents deal with this stage. The SEA Directive places new expectations upon P/P proponents in terms of transparency and it will take a significant change to current working practices in some sectors to enable such transparent decision-making to take place.

5.3 STAKEHOLDER CONSULTATION AND PARTICIPATION

The SEA process presents new requirements for consultation of environmental authorities and the public by those undertaking the SEA, which will either have to take place within existing structures or new procedures will have to be emplaced. Not only will SEA practitioners have

(1) ¹ Smithson, R (2003) Pers. Comm.

to be able to present the results of the SEA in a form suitable for a wide range of stakeholders, but they will also have to learn how to enhance contributions by stakeholders to benefit the SEA process. The public themselves will also have to learn how to actively contribute to SEAs. Although the Irish public are now accustomed to responding to project-EIA reports (Environmental Impact Statements) it will require a different approach to understand SEA reports and how they can become involved.

Section 7 discusses the current status of public consultation in Ireland and the opportunities to increase the role of the public through the SEA process.

5.4 *LINKING SEA TO EIA*

Ensuring that the benefits of SEA of P/P are cascaded down to the project-EIA level is one of the objectives of SEA. However, precise mechanisms to ensure that this takes place are not made explicit in the SEA Directive.

The directive states that SEA is required for all P/P that provide a framework for development consent of projects that are listed in the EIA Directive, or may have significant environmental effects. This is just one linkage between the two impact assessment processes. Possible ways in which SEA could link to EIA are listed below:

- SEA would be able to influence the scoping stage of an EIA, for which it forms a framework for development consent. For example by identifying certain environmental issues to require extra attention (groundwater, visual appearance, noise etc) in the EIS.
- SEA Reports should be referenced when provide a basis for approving or refusing certain types of development based upon the findings of the SEA.
- Advice Notes and Guidance on EIA published by the EPA, should advise that the relevant SEA Reports be referred to during the preparation of Environmental Impact Statements.

5.5 *LINKING SEA TO SUSTAINABLE DEVELOPMENT*

The SEA Directive is one of a range of measures that aim to “promote” sustainable development. By integrating environmental considerations into decision-making, the European Union claim that this should contribute to more sustainable solutions. Whilst this is true, environmental integration covers only one of the factors that should be taken into account to ensure that decisions may lead to sustainable development. Social and economic issues must also be added into the decision-making process so that it addresses the full range of impacts.

Since 1998, the UK Government has been promoting the use of sustainability impact assessment- called sustainability appraisal- which goes beyond the SEA Directive’s scope of issues to be covered and embraces economic and social issues into the assessment process. There has been much experience accrued at the regional level of planning in the UK and it is envisaged that

sustainability appraisal will not only become an obligatory requirement but that it will also fulfil the requirements of the SEA Directive.

6 PROPOSED SEA METHODOLOGY

6.1 INTRODUCTION

This section of the report presents the results of the research in the form of a proposed methodology for undertaking strategic environmental assessments of plans and programmes in Ireland.

The objectives of the overall methodology are three-fold:

- to comply with the procedural requirements of the directive as set out in Articles 1-15;
- to provide the information required by the directive in Annex; and
- to fulfil the overall purpose of the directive by also incorporating good practice in SEA in the methodology.

The proposed methodology is composed of four procedural “Stages”. Each procedural Stage involves several “Tasks” and for each Task a specific approach or method is described to deliver the desired outcome. The Stages and Tasks are illustrated in a flow chart in the following sections.

The Stages are:

- *Stage 1 Screening of Plans and Programmes*
- *Stage 2 Scoping the SEA*
- *Stage 3 Identification, Prediction, Evaluation and Mitigation of Potential Impacts*
- *Stage 4: Consultation, Revision and Post-Adoption Activities*

The proposed methodology is generic in nature and is designed to be flexible and applicable to all of the plans and programmes that may require SEA in Ireland. When applying the proposed methodology, it will be important to adapt the individual Tasks to the nature of the P/P, and the level of detail of the P/P being assessed. This will increase the effectiveness of the application of the Tasks and the quality of the outputs.

Where possible, this section describes the types of changes that are required to make the methodology more tailored to the task in hand.

It is hoped that by creating a generic methodology that SEA practitioners and the relevant Government Departments will be stimulated to produce both legislation and guidance which build upon the methodology presented within this Report to promote more refined SEA systems to develop.

The proposed methodology is described on the following pages.

6.2 STAGE 1: SCREENING OF PLANS AND PROGRAMMES

Screening involved determining the need to undertake a formal strategic environmental assessment under the SEA Directive. The screening procedure occurs prior to the main SEA process itself and prior to the preparation of the draft P/P. It will normally be initiated by one of the following precursors:

- A P/P requires formal revision (eg review of County Development Plans);
- A P/P requires amendment, which represents a substantial or material change that requires formal consultation and re-drafting procedures to be carried out;
- A new P/P requires preparation.

Discussion with SEA practitioners in Europe has suggested that there are likely to be key debates about defining what is meant by a “plan” or “programme”. One possible definition for plans and programmes is that a Plan proposes how a scheme or a policy is to be carried out or implemented. A programme however, may cover a set of projects in a given area, such an example would be the Ballymun Regeneration Masterplan. This example also demonstrates that the title “Plan” or “Programme” will not be a sufficiently reliable guide as to whether it requires an SEA. There are a wide variety of similar documents having a range of titles including “strategies”, “visions” and “guidelines” which may actually possess the characteristics of plans and programmes.

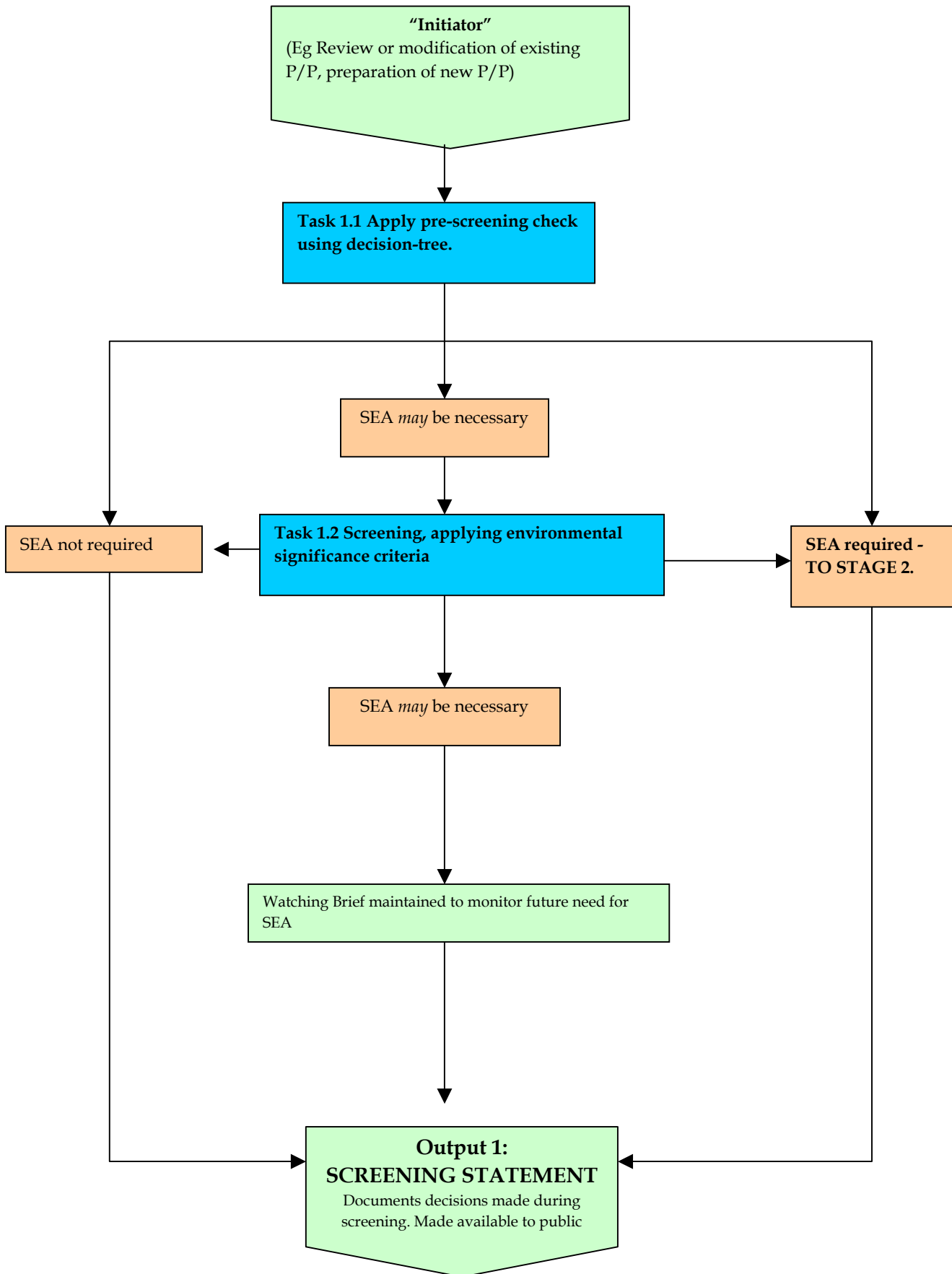
Screening of the P/P must take place at the earliest possible stage and can be carried out relatively quickly and efficiently if the P/P development team is aware of the role of SEA in the overall planning process. The preparation of a suitable screening methodology has resulted from the outputs of the Research Tasks 1 and 2 and Task 3 (categorising the range of plans and programmes that SEA may be applied to in Ireland). It also draws upon similar work that ERM has undertaken for the Scottish Executive.

The screening methodology that has been proposed by ERM can apply to all P/P that are produced in Ireland that may or may not require SEA. Based upon the advice of SEA experts and practitioners, it uses a series of questions that examine the nature of the P/P, the nature of the environment in which it is set and the requirements of the SEA Directive.

For the majority of P/P in Ireland, the need for SEA to be applied will be fairly clear and the application of the environmental significance screening criteria will not always be necessary. If SEA practitioners are in any doubt over the decision that has been made, independent advice should be sought from NGOs, academic or private consultants who have specialist knowledge of SEA. Experiences of applying EIA have shown that there are likely to be problems of trying to get SEA applied to the P/P in the “grey area” where the need for SEA is not obvious. Educating more SEA practitioners and NGOs will lead to improvements in screening practices but until a critical level of awareness is raised there is likely to be a period of rapid learning.

Figure 6.2a presents a flow chart showing the chronology of Tasks within this Stage.

Figure 6.2a STAGE 1- SCREENING OF PLANS AND PROGRAMMES



STAGE 1 SCREENING OF PLANS AND PROGRAMMES

Task 1.1 Apply pre-screening check using decision-tree

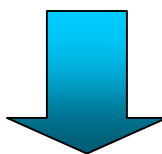
The pre-screening check is based on questions of an administrative nature, which can be rapidly checked by the authority to determine whether the P/P should be taken forward to the second screening stage. It allows rapid screening-out of those P/P that are clearly not going to have any environmental impact and screening-in of those that definitely do require SEA.

A “decision-tree” or flowchart is provided which simplifies the complex wording of the SEA Directive into a systematic and logical series of questions. This is shown in *Figure 6.2b*.

The decision-tree uses the criteria set out in the SEA Directive to decide if SEA is required or not. Unlike the environmental significance screening criteria, which are used in Task 1.2, the questions in the decision-tree are more “administrative” in nature and based upon the status of the P/P in question.

As a result of this Task, the following possible outcomes could arise:

1. P/P applies to one or more of the eleven sectors quoted in the SEA Directive and provides a framework for development consent¹ of projects requiring EIA. It should therefore be taken forward to Stage 2.
2. P/P will affect a Natura 2000 site and therefore requires an assessment under the Habitats Directive. It can be moved forward to Stage 2.
3. The P/P does not fall into any of the sectors covered by the Directive and will not affect a Natura site. It is therefore screened out by the pre-screening check and no further consideration of its possible impacts is required. Under such circumstances, a note highlighting the screening criteria applied and the decisions taken, would be kept on all relevant files.
4. The P/P is not screened out and may require more detailed checks to be undertaken (this will apply to small-scale P/P or minor modifications of P/P). This may involve the application of “Environmental Significance Screening Criteria” as described below.



(2)¹ A “framework for development consent” could be interpreted as when the P/P would lead to, or give guidance for the consent of development projects. This may be observed as the demarcation of areas zoned for specific types of development, measures which identify circumstances under which development will be encouraged or allowed, criteria which may be applied to decisions on development consent or forward programmes which identify certain types of development to be pursued in a particular sector (e.g. Wind energy within an Energy P/P).

Task 1.2 Screening applying environmental significance criteria

Task 1.2 is undertaken where the P/P falls into the categories covered by the directive when it is not clear whether the P/P will lead to significant environmental effects.

Environmental significance screening may be undertaken to assess whether the P/P is likely to result in environmental impacts and should therefore be taken forward for SEA. The application of environmental significance criteria will be particularly important in determining whether if SEA is required for small P/Ps or modifications to P/Ps. Annex II of the Directive sets out the “statutory” criteria that should be addressed when undertaking this stage. These are:

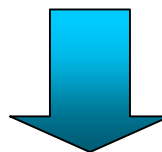
- the probability, duration, frequency and reversibility of the effects;
- the cumulative nature of the effects;
- the transboundary nature of the effects;
- the risks to human health or the environment (*e.g.* due to accidents);
- the magnitude and spatial extent of the effects (geographical area and size of the population likely to be affected);
- the value and vulnerability of the area likely to be affected due to:
 - special natural characteristics or cultural heritage;
 - exceeded environmental quality standards or limit values;
 - intensive land-use;
- the effects on areas or landscapes which have a recognised national, Community or international protection status.
- *In applying these criteria, the authority should ask itself the following types of questions: Would the plan or programme result in changes in the actions, behaviour or decisions of individuals, enterprises, other non-governmental organisations or government which could lead to:*
 - the development of infrastructure and buildings or other changes in urban or rural landuse?
 - development of land in greenfield areas or areas of nature conservation importance?
 - a negative or beneficial impact on ecological and/or natural resources?
 - changes in society’s consumption of energy and in particular fossil fuels, and therefore in emissions of carbon dioxide and other greenhouse gases?
 - changes in society’s consumption of other natural resources (*e.g.* water, soils, minerals or aggregates)?
 - changes in the amount or type of waste produced (solid, liquid, hazardous) or of pollutants released to water, land or air?

- changes in emissions of greenhouse gases from other sources (e.g. methane from livestock and landfill sites)?
- changes in travel behaviour?
- impacts on people and communities e.g. through increased noise, disturbance or nuisance?
- Is the P/P taken into account during the preparation of more detailed P/Ps within the same sector (i.e. in a vertical hierarchy) or P/Ps in other sectors at the same level (i.e. horizontally-linked)?
- Does the local environment present constraints upon the development of the geographical area covered by the P/P?
- Does the P/P implement statutory requirements that may be linked to use of resources, waste production and management or other issues associated with promoting sustainable development?
- Does the P/P aim to promote sustainable development?

These questions may be adapted to suit the context of the P/P and the nature of particular administrative processes. Answering these questions may require brief, targeted discussion with others who have knowledge of the subject areas listed above e.g. waste, transport and ecology. It is important that the check is not carried out by only one person who may not fully understand the potential interactions of the P/P with a range of environmental media.

After Task 1.2, three possible outcomes could arise:

1. The P/P is considered likely to have no significant effects on the environment and therefore no further assessment is required. A record should be kept on file of the outcome of environmental screening.
2. The P/P could have environmental implications but these are not likely to be significant in terms of the Annex II criteria. In this case the P/P will be subject to an “environmental watching brief” to determine the need for SEA later in its development.
3. The P/P could have significant environmental implications and the nature of the P/P is such that these should be assessed in detail and a full SEA should be undertaken.



Output 1: SCREENING STATEMENT

The SEA Directive requires that the results of the screening process, as required by Article 3(5) and including the reasons for not requiring an environmental assessment, are made available to the public.

It is suggested that the Screening Statement, which presents the results of the tasks described above should include the following information:

1. Introduction.
2. Purpose of the Plan or Programme.
3. Results of pre-screening check and results of environmental significance screening if required.
4. Proposed timetable and approach for the SEA process (if SEA is deemed to be applicable).
5. Contact Point for stakeholder comments

Is the P/P subject to preparation and/or adoption by a national, regional or local authority?

OR

prepared by an authority for adoption through a legislative procedure by Parliament or Government

NO

SEA not required

YES

Is the P/P required by legislative, regulatory or administrative provisions?

NO

SEA not required

YES

Is the sole purpose of the P/P to serve national defence or civil emergency or is it a financial/budget P/P or is it co-financed by SF/RDF?

YES

SEA not required

NO

Is the P/P prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecomms, tourism, town and country planning or land use?

NO

Is the P/P likely to have an effect on a Natura 2000 site, which leads to a requirement for Article 6 or 7 assessments?

YES

SEA required– Go to Stage 2

YES

Does the P/P provide a framework for development consent for projects listed in the EIA Directive?

NO

SEA not required

YES

Will it determine the use of small areas at a local scale or is it a minor modification of a P/P?

YES

Does it provide a framework for development consent for projects AND has the MS determined that it is likely to have a significant effect on the environment (use the Environmental Significance Criteria)?

YES

SEA may be required – Go to Task 1.2

NO

NO

SEA not required

SEA required– Go to Stage 2

Figure 6.2b SEA Decision-Tree

6.3 STAGE 2 SCOPING THE SEA

Purpose of Scoping

Figure 6.3a shows the proposed methodology for the “Scoping” stage. This is a term which has also been used in project-EIA. “Scoping” refers to the focussing of the EIA process so that it covers the most important environmental issues and the key aspects of the proposed development. The overall purpose of scoping in EIA is to make the EIA process cost-effective by avoiding wasting time on irrelevant issues.

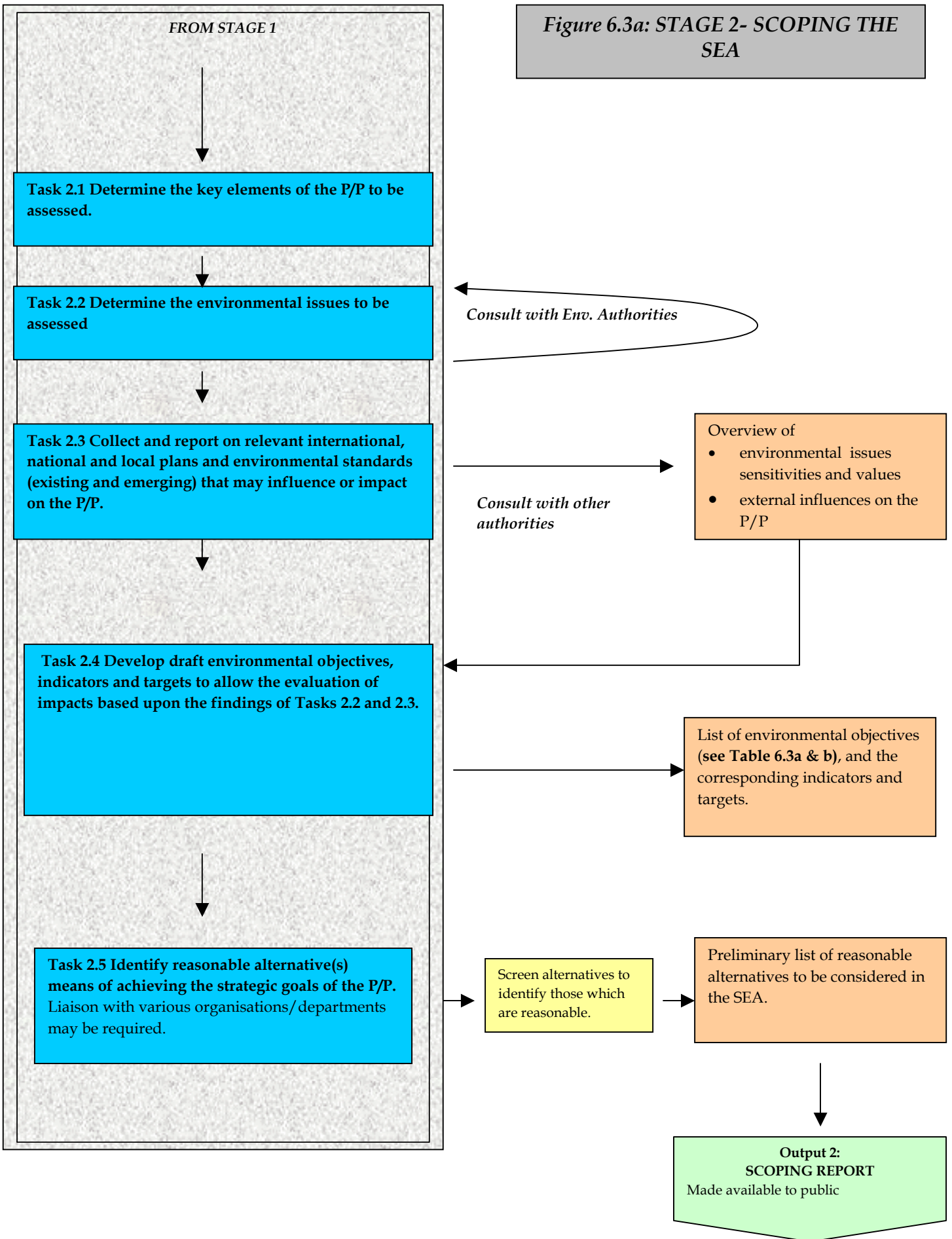
After deciding in Stage 1 that SEA is required, Stage 2 is the beginning of the SEA process in earnest. The purpose of Stage 2 is to develop an understanding of the environmental interests that may be affected and the key measures proposed in the P/P to set a framework for identifying and evaluating the impact of the measures on these environmental interests. Scoping will ensure that the authority remains focussed upon the important issues and does not waste resources on unnecessary tasks.

The SEA Directive requires that “environmental authorities” should be consulted on the scope and level of detail required in the SEA process. These consultees would be expected to include prescribed bodies under the land-use planning system (including EPA, Department of Environment, Heritage and Local Government, An Taisce) and other bodies.

For this reason it is important that scoping starts early in the overall P/P preparation before the P/P has evolved beyond the stage where significant changes can be made. Ideally, scoping should start when the over-arching aims of the P/P are being developed.

It should be noted that none of the case study analyses showed that scoping had been undertaken in any formalised manner. But it is likely that certain Tasks, which are described in this Stage, did take place as part of the P/P preparation process.

Figure 6.3a: STAGE 2- SCOPING THE SEA

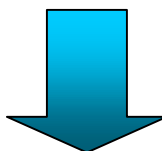


Task 2.1 Determine the key elements of the P/P to be assessed

The purpose of this task is to narrow the focus of the early stages of the SEA process to address the main “objectives”, “goals” or “strategic aims” within the P/P and the types of activities that are expected to follow from its implementation. These could include development of projects, investment in new technologies, changes to business activity or the activities of individuals or communities (e.g. travel behaviour, consumption patterns), new approaches to regulation and decision-making by governments. This is for the purposes of scoping only. The more detailed aspects of the P/P will be assessed whilst they are being prepared, later in the overall P/P preparation process.

Using a round-table discussion or a workshop brainstorming session, the key aspects of the P/P may be identified. If there is a separate SEA Team it should liaise closely with the P/P development team at this early stage of the SEA so that key lines of communication are developed. This is particularly important if external advisors are being used to undertake the SEA. Note that the identification of key measures contained in the P/P is a task that will happen anyway, and the SEA process must be integrated into the P/P preparation process.

At this stage key community needs and constraints must be integrated into the P/P and into the SEA ensuring that community representatives are consulted and brought into the discussion.



Task 2.2 Determine the environmental issues to be assessed.

Once the elements of the P/P are identified the next task is to consider what aspects of the environment might be affected by their implementation and which of these effects are likely to be significant and therefore require investigation. It may be necessary to collect some data on the receiving environment to provide information on sensitivities, constraints and threats.

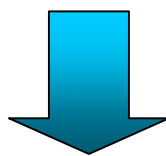
It is also an obligation under the SEA Directive that information is provided on the “relevant aspects of the current state of the environment”. The relevant aspects can be identified through discussion and consultation at this stage.

It is at this stage that environmental authorities must be consulted on the scope and level of detail of information to be included in the SEA. There are various methods that may be used for consultations. Letters, faxes and telephone calls made to targeted individuals are often most effective and enough time must be allocated to allow responses to be provided. Although the environmental authorities may read the Scoping Report (which is the output of this Stage), it is necessary to involve them earlier in the process so that their concerns are addressed.

To facilitate their response, an information pack can be compiled and sent to the authorities. This should describe the elements of the P/P and the types of actions which are likely to flow from its implementation (e.g. the development of new transport infrastructure, changes in waste management practices, planned development of county or locality) and an indication of how the scoping process will feed into the SEA.

Narrowing the focus is a key aim of the scoping stage and may be undertaken relatively quickly by a round-table discussion involving representatives with responsibility for the P/P and SEA team as well as outside experts. Standard checklists can be used to identify, which environmental aspects need to be considered in terms of their relevance.

At this stage, it is only necessary to determine which environmental issues need to be addressed in the SEA. The detailed investigation of these issues including baseline data collection and impact predictions will be carried out in Stage 3.



Task 2.3. Collect and report on relevant international, national and local policies, objectives and environmental standards (existing and emerging) that may influence or impact on the P/P.

The SEA Directive requires that the SEA process should include looking at other P/P, which are related to the P/P being assessed (Annex I (a)). This could include P/P in the same geographical area (e.g. Cork County Development Plan and its Indicative Forestry Strategy) or P/P in the same sector at different levels (e.g. Wicklow County Development Plan and Blessington Local Area Plan).

These should be analysed and any references to the environmental issues that may be addressed in the SEA should be highlighted to ensure that the P/P being assessed is consistent with other related P/P. It will also help to identify where cumulative impacts may arise and require attention in Stage 3.

Similarly, the SEA Directive states that the SEA should also look at “*the environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation*”.

SEA practitioners will have to identify which environmental protection objectives are relevant to the P/P being assessed. This is best undertaken by consultation with key staff and organisations that have knowledge of environment and planning law in the EU and Ireland (including external experts). There is a range of EU-level Directives and national legislation, which may affect certain P/P, and it may be the role of the DoEHLG to provide an updated master list of such instruments so that there is an avoidance of “reinventing the wheel”.

Identification of these objectives will provide the basis for evaluating the significance of impacts in Stage 3.

The purpose of this task is to ensure that the P/P is cognisant of the various environmental initiatives that apply at the international, national, regional and local level. The P/P must comply with all of these, from the International Convention on Wetlands (the Ramsar Convention) at the international level down to local recycling initiatives. The SEA must also ensure that the P/P does not conflict with any of these. By doing so it will pass down these benefits to the project-EIA process so that any proposed developments that are compliant with the relevant P/P are also compliant with the range of environmental objectives.

References to environmental policies, objectives and standards affecting the P/P should be recorded clearly on file for future use.

Examples of other plans and programmes that were identified as being “related” in the case studies are described below:

eg. County Mayo Indicative Forest Strategy: Discussion Paper

Irish National Forest Standard, Code of best forest practice, Forestry and water quality guidelines, Forestry and archaeology guidelines, Forestry and biodiversity guidelines, Forestry and landscape guidelines, Forest harvesting and the environment guidelines and Forestry and aerial fertilisation guidelines.

eg. Somerset Waste Local Plan Strategic Environmental Assessment

The SEA report indicates that the Plan was “scoped” against a wide range of UK government guidelines and local, regional and national P/Ps, to ensure that the Plan was consistent with these other instruments.

European Level Plans and Objectives

Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (Annex 1, which outlines the environmental factors that need to be considered in the impact assessment).

National Level Plans and Objectives

Quality of Life Counts - The Government’s Sustainable Development Headline Indicators;

Waste Strategy 2000 – England and Wales;

Best Value Performance Indicators

State of the Countryside Report – Countryside Agency

Regional Level Plans and Objectives

Regional Environmental Observatory Website

A Sustainable Future for the South West – The Regional Sustainable Development Framework for the South West of England;

South West Strategic Waste Management Assessment

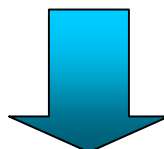
Local Level Plans and Objectives

A cleaner, better, healthier Somerset – a Local Agenda 21 vision for Somerset;

Somerset County Council Waste Services Best Value Baseline Review;

Somerset County Council – Future Waste Management Solutions and Delivery

It should be noted that although in practice, few SEAs make little if any reference to other P/P and their influence on the SEA, most authorities do take cognisance of other P/P during the preparatory stage but do not usually undertake this in a systematic manner or use it to focus upon environmental issues. Undertaking SEA will help to formalise this practice and will ensure that over a period of time, all P/P will become more consistent in their approach to meeting development needs whilst addressing environmental concerns.



Task 2.4 Develop draft environmental objectives, indicators and targets to allow the evaluation of impacts based upon the findings of Tasks 2.2 and 2.3.

For each environmental issue to be investigated, the next task is to identify criteria against which the performance of the P/P can be judged. These will derive from the environmental policies, objectives and standards identified in Task 2.3.

Environmental objectives provide a benchmark “intention” against which the environmental effects of the plan can be tested. They may often be similar to measures contained in the P/P or derive from objectives, which may exist in other related P/P.

- eg.* Reduce noise and vibration in sensitive neighbourhoods.
- eg.* Increase water quality in salmonid fisheries.
- eg.* Reduce CO₂ emissions from transport or electricity generation.
- eg.* Minimise impacts on designated habitats.

Indicators provide a means for measuring the progress toward achieving the environmental objective over time.

- eg.* Noise complaints received 2002-2005.
- eg.* Water quality in salmonid fisheries OR fish kills per year.
- eg.* Tonnes of CO₂ emitted per year.
- eg.* Area of designated habitats.

Targets describe the desirable state in relation to each objective in quantifiable terms.

- eg.* 50% reduction in noise complaints.
- eg.* 60% reduction in fish kills per year.
- eg.* X tonnes of CO₂ emitted per year by 2020.
- eg.* less than 1% of designated habitats affected.

There are certain basic requirements relating to environmental objectives, indicators and targets

- Objectives must be fit-for-purpose (i.e. capable of being used as SEA “benchmarks”);
- Objectives should address the needs and expectations of stakeholders;
- Objectives and targets must be capable of being revised as new baseline data becomes available;
- The implementation of the objectives must be capable of being monitored and it must be possible to set challenging but realistic targets using sensible indicators which can be measured with available time and resources.

It is important that the indicators are measurable and targets are realistic. SEA practitioners need to ensure that either there are existing monitoring networks in place to measure the indicator, or that there are resources available to set up new monitoring networks. Quantitative targets and indicators are more useful than qualitative ones since they can generate tangible, real data and, as long as they are realistic, are easier to monitor. Nevertheless, qualitative indicators should not be discounted as sometimes they are the only option available by which to measure performance.

The case study analyses showed that the preparation and use of SEA or environmental objectives to be used within the assessment process frequently takes place. However, the process by which these objectives were prepared was not always obvious. Interviews with the case study participants suggested that either the objectives were generated from brief in-house discussions or by using the sustainability objectives/indicators from the National Sustainability Strategy (1997). A useful example is that from the Dublin Docklands Development Authority, which used a two-person team to identify, draft and revise the “sustainability objectives” as they were used in the SEA process. These are provided in *Box 6.3a*. It is good practice to describe the basis on which the environmental objectives or criteria were drafted.

Environmental objectives in the SEA of the Dublin Docklands Draft Masterplan 2003

The sustainability objectives cover Biodiversity, population, Soil, water, air/climate, Cultural Heritage:

Bio diversity/Flora and Fauna

B1 - safeguard designated areas/ areas of nature conservation importance while increasing potential for wildlife/flora and fauna, where appropriate.

Population

P1 - promote the creation of a safe, healthy and high quality environment in which to live and work.

P2 - promote the strengthening and diversification of the local economy.

P3 - promote local employment opportunities.

P4 - promote access to education and training.

P5 - promote the meeting of local housing needs.

P5 - involve local communities in the redevelopment/renewal of the Area.

P7 - promote community cohesion.

Soil

S1 - promote decontamination to international standards of contaminated soil.

Water

W1 - ensure adequate good quality water supply.

W2 - maintain/improve water quality of waterbodies.

Air/Climate/Noise

C1 - maintain/promote improvement of air quality.

C2 - promote minimisation of greenhouse gas emissions to the atmosphere.

C3 - reduce trip generation, trip length and the need for motorised transport.

C4 - promote public transport and attraction of walking/cycling.

C5 - promote sustainable energy use/generation

C6 - minimise noise pollution.

Cultural Heritage/Material Assets







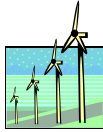

H1 - safeguard Protected Structures and sites of archaeological value and maintain environmental quality of Conservation Areas.

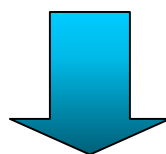
H2 - enhance townscape and general landscape/environmental quality.

H3 - ensure adequate provision of open space/maintain and improve access to open space areas.

Note that ideally, indicators and targets should have been provided to allow the objectives to become more useful. However, the approach that the DDDA have taken is a good step toward effective SEA.

The SEA of the Dun Laoghaire-Rathdown County Development Plan has involved the preparation of a series of environmental objectives as listed in *Box 6.3b*. They follow UK guidance that at the time promoted the use of symbols to represent environmental media. However these do not always contribute enough information to the assessment process.

	Minimise the consumption of natural non renewable resources
	Protect the quality of the landscape
	Protect architectural and cultural heritage and material assets
	Encourage sustainable transport
	Minimisation of waste
	Conserve and enhance biodiversity and natural heritage
	Encourage energy efficiency
	Encourage social inclusion and access for all



Task 2.5 Identify draft alternative means of achieving the strategic goals of the P/P.

The SEA Directive requires that the environmental report should include a discussion of the “reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme”. As such, the SEA Report should include a clear discussion on alternative plans or programmes considered during the development of the preferred option (European Parliament and the Council of the European Union, 2001).

Consideration of alternatives in SEA may proceed in different ways. For some P/P it may be appropriate and practical to set out alternative versions of the P/P, compare these on environmental grounds, and then explain the reasons for selecting proposed P/P, including the environmental reasons. In other cases (e.g. development plans) it may be more appropriate to consider alternatives as each element of the P/P is developed (e.g. alternative proposals on housing land allocation, alternative policies in siting of new infrastructure), and to summarise these in the SEA Report are the end of the process. In either case, the important requirement is that the environmental implications of

alternatives are discussed so that it is evident how environmental considerations have influenced the 'final product'.

Where overall alternatives to the P/P are presented, it will usually be necessary to restrict these to a small number (3-6) for practical reasons. The alternatives should then be selected to represent the range of different approaches to the P/P that are available (e.g. for and Energy P/P: between continuation of reliance on traditional energy sources, through different levels of focus on renewables to emphasise on maximum energy saving and renewables).

Note that good practice in SEA requires alternatives to be compared in terms of their potential environmental effects, but the reasons for selection of the preferred alternative P/P may also include economic and/or social reasons and these may also need to be discussed.

At this stage, the assessment of alternatives may be broken down into three stages (Scott et al, 2001):

- 1. Identification of purpose and need for the proposed action that is the over-arching objectives of the plan or programme.*
- 2. Search for feasible alternatives:* Searching for alternatives should involve broadening the original purpose of each strategic goal or objective in order to identify a range of alternatives. This stage requires consultation between the SEA team, the P/P team (if separate) and other stakeholders. It is also good practice to consult relevant authorities to "test the ground" with certain alternatives.
- 3. Selection of alternatives for elaboration and further investigation using criteria:* Since there may be several alternatives available, criteria should be applied to reduce this list to a smaller number of more feasible alternatives. The development of these selection criteria (e.g. public acceptability, minimises energy and resource use) can help in designing and revising alternative objectives. (eg. is it, economically, socially and politically acceptable?) These criteria must be robust and capable of withstanding scrutiny if stakeholders do not agree with the choice of alternatives. The precise form of the criteria will depend upon the nature of the P/P.

Studies for the European Commission (EIA Centre, 1997) have indicated that a minimum expectation to meet this requirement would be a comparison between the "do-nothing scenario" (also referred to as the "zero-alternative") and the preferred option. However, using the do-nothing scenario may not be a reasonable alternative if law requires the preparation of the P/P. There may be variations on the do-nothing option such as "do minimum" - which may equate to not revising a plan or programme or not implementing certain safeguards. The do-nothing scenario can also be regarded as a benchmark against which the alternatives can be assessed.

One method of generating alternatives within a P/P would be to generate a series of "scenarios" based upon changing variables in the scope of the plan or the environment (for example, population targets, different employment targets, land-use targets, etc). The use of scenarios is generally considered one of the most practical solutions for alternative selection.

Another option could be to require the assessment of the most environmentally-benign alternative or the alternative that is most environmentally-sustainable. The use of the latter should ensure that the preferred alternative is also the best balance between environmental and socio-economic priorities. This however requires an integrated approach. In 1994, the EU-funded review of SEA methodologies identified that most SEA reports considered different options and recommended that the options should reflect the essential choices to be made by the decision-makers. The draft UK guidance on SEA provides a good example of how different approaches can be used in this stage. It puts the process of choosing between options, early in the SEA process and identifies a range of approaches to options appraisal. It also advises “to keep the big issues clear, the options considered at this early scoping stage should not be elaborated in too much detail”. Transparency and robustness of choices is also advised in this new guidance (ODPM, 2002).

There are only a few SEA systems that have formalised this stage. The Netherlands Commission for EIA requires a description of alternatives, including one that is best from an environmental viewpoint (since quite often there are other alternatives which are better socially and economically). The Austrian SEA system requires that alternatives are generated and addressed during the scoping stage (Arbter, 2000). Similarly in Portugal, the generation of alternatives follows the scoping of issues and baseline information and then the practitioner can concentrate on choosing between alternatives (Partidario, 2002b).

In Ireland, the treatment of alternatives in project-EIA has been poorly undertaken to date but this is not surprising given the lack of opportunity and experience available to SEA practitioners. The proposed SEA methodology resulting from the research indicates that even small steps taken toward handling alternatives will be useful in the first SEAs to be carried out under the Directive.

The analysis of the case studies revealed that, as expected, the consideration of alternatives was not attempted in most of the case studies:

Review of the Dublin Docklands Masterplan

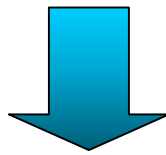
The Draft SEA noted strategic alternatives to implementing the reviewed Master Plan. The alternatives were:

- Do not implement any plan – the do-nothing option
- Implement the 1997 version of the Plan (i.e. not reviewing the Plan)
- Implement the reviewed version of the Plan (the 2003 version).

Environmental Appraisal of the Ballymun Regeneration Masterplan

Main alternatives included

- Do Nothing (refurbish flats or demolish and rebuild)
- Options for Ballymun Road/Main Street (including a do-nothing option)
- Options for scale and mix of use in the town centre.



Output 2: SCOPING REPORT

This is not a formal requirement of the SEA Directive but is likely to be required in Ireland. The Scoping Report should be issued early in the P/P process, for example together with the first P/P consultation document.

The purpose of the Scoping Report is to *inform* stakeholders about the key environmental issues, the key elements of the P/P and alternatives within the P/P. It also aims to generate comment from stakeholders on the scope and approach to the SEA and on the P/P and to this end, it should be made freely available alongside any parallel documents such as Issues Papers or Discussion Papers which describe the P/P.

A possible list of information that should be included in a Scoping Report is presented below. Note that since the Report is for public readership, it should be clear, concise and concentrate on the key issues. More complex details and data should be saved for publication in the SEA Report. Authors of the Scoping Report will have to adapt the structure and content of the Report to reflect the nature of the P/P and the readership.

1. Introduction (include brief introduction to the P/P and the P/P preparation process, the purpose of the Scoping Report).
2. Proposed SEA methodology (includes a timeframe and list of consultees).
3. Maps of area to be covered.
4. Key purpose of the P/P (or cross reference to Issues Paper).
5. Preliminary list of alternatives within the P/P.
6. Key environmental baseline issues.
7. Environmental objectives, indicators and targets.
8. Interaction with other P/P.
9. Environmental constraints.
10. Conclusions on proposed scope of the SEA.
11. Sources of data.

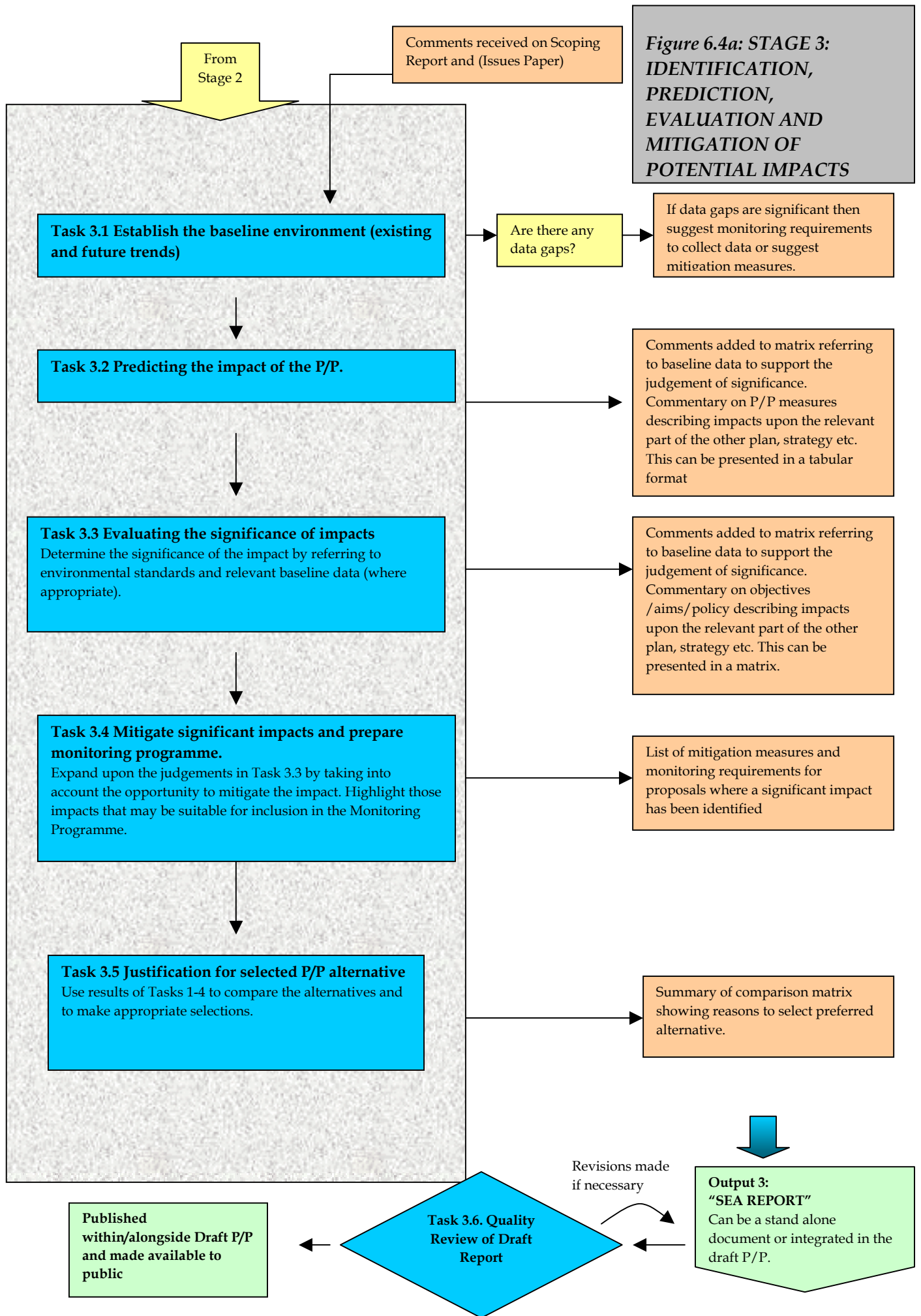
Contact points for comments.

6.4 STAGE 3 IDENTIFICATION, PREDICTION, EVALUATION AND MITIGATION OF POTENTIAL IMPACTS

The purpose of this stage in the process is to identify and address the likely environmental impacts of the P/P. This will involve:

- Obtaining and understanding of the existing state of the environment with respect to the aspects which may be affected by the P/P.
- Predicting how that environment is expected to change as a consequence of implementing the P/P (and its alternatives);
- Evaluating the significance of these changes in terms of their compliance with the environmental policies, objectives and standards identified during the scoping stage;
- Considering how the P/P can be revised or refined to mitigate significant adverse effects and to maximise any benefits offered by the P/P.

Figure 6.4a presents a flow-chart showing the Tasks within this Stage.



Task 3.1 Establish the baseline environment (existing and future trends)

Before impacts on the environment can be predicted, it is necessary to understand existing conditions.

This first task in stage 3 is to collect information on baseline conditions with regard to each type of potential impact. Ideally, this task should be commenced as soon as possible in the SEA process, usually alongside Stage 2.

Data should be collected from existing sources as far as possible but new surveys may be required if an impact is likely to occur in an area where there is little or no information.

Because Ireland has a history of diverse, scattered and irregular environmental monitoring, the absence or shortage of environmental information is likely to be a common issue in SEA so that new data collection may often be needed. It is important however to consider carefully how much information is needed to predict and evaluate impacts with reasonable confidence, and not to allow SEA to become a burdensome data-collection exercise as this can impose unacceptable delays on important P/P processes. SEA only needs enough information to make reasonable judgement and often these can be made by experts with relatively little data.

Environmental data will help to identify the following parameters:

- Key environmental resources (*e.g.* SACs, ancient monuments, landscapes).
- Key environmental sensitivities (*e.g.* water quality, rare species, archaeology etc).
- Key environmental threats (*e.g.* land contamination, one-off housing).
- Key environmental trends (*e.g.* changes in water quality, population etc).

Baseline environmental data are information that allows the state of the environment to be identified in objective (often quantitative) terms. The data should encompass the environment as it is now (*i.e.* the most up-to-date data) as well as the environment as it would be expected to change in the absence of the P/P.

- Baseline data should match the scale of the P/P: the Directive states that the level of detail that is to be applied in the plan or programme should dictate the level of detail presented in the environmental report.
- Baseline data should be as recent and accurate as is reasonable without imposing unnecessary burden in new data collection
- Baseline data must be capable of being linked to the environmental objectives, targets and indicators (see later in this section). As a result, there may be a need to revise baseline data requirements during the SEA and P/P development process.

Baseline data may be presented as maps or summarised in text. Large tables should be avoided wherever possible.

It is an important part of this task to identify where there are data gaps (*i.e.* where there is a lack of important baseline data) as this will be an important

issue in Ireland. Participants in the case studies have already noted many areas where there is little, if any, usable data. It has been suggested that data on soil contamination, health statistics, traffic impacts, biodiversity and other parameters are either non-existent or not useful for SEA-purposes.

To address data gaps in the short-term, the SEA should report the uncertainty that the data gap has caused. Data gaps need to be made explicit, not hidden away in the SEA process. In addition, wherever possible, the indication of a lack of data should be matched with a commitment to collect that same data as part of the monitoring of the implementation of the plan (See Section 7)

In the long-term, the continuous reporting of such inadequacies should stimulate the relevant bodies to commence data collection activities. This is why data gaps should be made explicit.

Suggested sources of environmental data are listed in *Table 6.4a*.

It is highly recommended that SEA practitioners document the collection of baseline data so that a clear “audit trail” is left behind. This will not only help the next SEA to be carried out more efficiently but it will help third parties to check information referred to in the SEA documentation. It is also recommended that any consultations with environmental authorities should be recorded.

Table 6.4a *Potential sources of baseline information*

Environmental Issue	Type of data	Source
Biodiversity	Numbers, descriptions and locations of designated areas, National Biodiversity Plan, BIOMAR data etc.	National Parks and Wildlife Service, Heritage Council, Marine Institute, EDS, County Development Boards, Fisheries Board.
Population	Census 2002 data and population trends.	Central Statistics Office, County Development Boards, Regional Health Board(s).
Human health	Regional Health Board Statistics.	Health and Safety Authority, Public Health Institute, County Development Boards, Regional Health Boards.
Fauna, flora	Protected species, species diversity and abundance.	National Parks and Wildlife Service, Local Authority Wildlife Officer, County Recorder.
Water	Annual Water Quality reports, Drinking Water Quality reports, Ground water protection zones, water quality, canals and navigation details, flooding and drainage data.	Office of Public Works, EPA, Geological Survey of Ireland (GSI), Marine Institute, Coastal Waterways Ireland.
Soil	Agricultural quality of soils, potential for contamination.	Teagasc, GSI, local authorities.

Environmental Issue	Type of data	Source
Air quality	Local air quality, changes in air quality, sources of emissions.	EPA and Local Authority monitoring data.
Climatic Factor	Long-term climate data.	Met Eireann, EPA climate change reports.
Material Assets	Infrastructure, community facilities, open space, services.	Local authority, local Chamber of Commerce.
Cultural Heritage (inc Architecture and Archaeological Heritage)	Lists of protected buildings and sites and architectural inventories.	National Parks and Wildlife Service, Office of Public Works, Heritage Council, National Heritage Plan. Local Authority, Local/Regional Museum, SMR.
Landscape	Landscape character types, protected views and landscapes.	Landscape Character Assessments, Forest Service, National Parks and Wildlife Service, Heritage Council, Local Authority.

Note: This list is not exhaustive, nor should all of these sources be addressed at this stage if it is not deemed necessary.

The case studies that were analysed reflected the fact that baseline data collection is resource-intensive and not necessarily required to carry out the SEA. Baseline data was not collected for the Cork and Dun Laoghaire-Rathdown Development Plans due to the time constraints in the development plan process as governed by the Planning and Development Act 2000. Summaries of the scope of the baseline data that have been collected for the other case studies are described below:

County Mayo Indicative Forest Strategy

The Discussion Paper included County-level data on forestry cover, economic issues connected with forestry, agro-economic issues, species diversity (in terms of trees), designated areas, landscape character types, catchments, recreation and tourism. The Discussion Paper was designed to stimulate/facilitate an informed input. While the headings/subject matters occurred in each Discussion Paper in each County, the information gathered would be specific to each county.

Somerset Waste Local Plan Strategic Environmental Assessment

Baseline environment is described in terms of existing problems, actual baseline information for a limited set of environmental objectives, evolution of the environment without the plan.

Environmental Appraisal of Ballymun Regeneration Masterplan

Baseline information was generated through technical surveys and reference to other data sources in a manner similar to that found in project-EIA. This reflects the nature of the need for the Environmental appraisal to address cumulative impacts of the small projects that will occur in a relatively small area.

Dublin Docklands Master Plan Strategic Environmental Assessment

The Draft SEA provides outline descriptions of the environment pertaining to biodiversity, fauna and flora, population, soil, water, air, climate, material assets/cultural. Specific data that are discussed include bird populations, designated areas, population characteristics and predictions, contaminated land review, water quality, air quality monitoring data, climatic data, archaeological and cultural heritage features.



Task 3.2 Predicting the impact of the P/P.

The aim of this Task is to identify and describe the effects of the P/P on the environment.

The first requirement is to identify the expected outcomes of implementing each element of the P/P. These may be physical developments (e.g. new roads, waste disposal facilities), changes in the way businesses operate (e.g. increasing use of certain types of freight), changes in individual or community behaviour (e.g. increased use of public transport), and changes in the actions of national and local government (e.g. granting funds for improved bus services, increasing fuel taxes).

Once expected outcomes have been identified then it is possible to consider what the implications of these might be for the environment. How will these outcomes interact with different aspects of the environment? Predictions of impact can be quantitative or qualitative. What is important is to provide as much information as possible about what is expected to happen in the environment as a consequence of implementing the P/P. Predictions should address:

- the nature of the change (a decline in air quality, loss of landscape or ecological resources, reduction in amenity, impact on soils or water resources);
- the extent of the changes, qualified as far as possible but otherwise described;
- the geographic location or extent and the frequency and duration of the impact
- whether the impact may be temporary or permanent; and
- the probability that the impact will occur.

This last point is especially important in SEA as the outcomes and therefore impacts of the P/P will often be uncertain.

The level of detail at which predictions can be made will depend on the nature of the P/P. So for example, it may be possible to predict the outcomes and impacts of detailed Waste Management Plan in some detail in terms of what new facilities ought to be built where and how they will affect land, air quality, etc. In contrast, the outcomes of a P/P that would provide subsidies for renewable energy production may be predictable in terms of the national fuel mix and overall CO₂ emissions but not in terms of what types and where renewable energy projects will be built and therefore the local impacts ecology, landscapes and communities will also be unknown. These impacts will, of course, be addressed at the project-EIA level.

In some cases, it will be possible to give specific, often qualitative predictions of impacts (change in CO₂ emissions, loss of habitats, etc), but in others it may only be possible to predict likely direction of change (e.g. an increase or

decrease in emissions) but not possible to quantify them. It is important, nevertheless, to recognise that both types of prediction are valid and useful, depending on the nature of the P/P.

As a result, the methods used for prediction in SEA can range from complex models through simple calculations to the professional opinion of relevant experts.

In predicting impacts in SEA, as in project-EIA, it is important to consider all the possible types of impacts that may occur: direct and indirect; primary, secondary and higher order; short, medium and long-term; temporary and permanent; impacts rising from unforeseen or abnormal events and cumulative impacts.

Cumulative impacts may be particularly important in SEA because a P/P may envisage many different developments proceeding in parallel with each other, and with other changes happening in the area. The potential for transboundary effects must also be remembered.









The results of predictions can be usefully summarised in a tabular format (sometimes called an impact matrix). This can be particularly useful for comparing the impacts of alternatives. The results can be summarised using grading systems (high-medium-low; A/B/C; ↑*✓; etc) but these should not be used alone. The impact prediction should always be presented in reasonable detail so that the reader understands what is likely to happen to the environment. Summary approaches can be useful for presentation purposes but should always be based on real information set out in tables or text.

Table 6.4c Examples of Impact matrices: Dun Laoghaire-Rathdown Draft County Development Plan

Assessment of the Main Planning Goals

The likely impacts of achieving the main planning goals set out in the Overall Strategy (Chapter 2) are assessed below in relation to the strategic environmental aims.

Strategic Environmental Aims

Main Planning Goals								
To plan for and co-ordinate appropriate sustainable development in Dun Laoghaire-Rathdown, based on high quality residential, working and recreational environments and sustainable transport patterns	o	o	o	√	o	o	√	√
To create a high quality physical environment to meet the growing needs of those living, working or visiting the County in a sustainable, inclusive, balanced and integrated way and where communities can thrive in an ecologically, socially and economically sustainable manner.	o	o	√	√	o	o	√	√
To provide for the future well being of the residents of the County by: providing sufficient housing land, providing an adequate supply of zoned lands to meet anticipated development needs, facilitating the growth of employment opportunities in all sectors, protecting the quality of the built and natural environments, ensuring the provision of the necessary social and physical infrastructural services, promoting sustainable transportation patterns.	√	√	√	√	√	√	√	√

√ = positive o = neutral
 x = negative ? =
 Uncertain

There were several examples of presenting the results of this Stage in the case studies, but alas there is little evidence of any commentary to accompany the matrices, which would have made them more meaningful. Examples are provided below:

Table 6.4d *Example of Impact Matrices: Somerset Local Waste Plan*

The key that has been used to score the impacts is shown below:

- ✓ Positive Impact
- ✗ Negative Impact
- Neutral Impact
- ? Uncertain Impact
- 2nd Secondary Impact
- Cm Cumulative Impact
- Sn Synergistic Impact
- S/M/L Short, Medium and Long Term
- P/T Permanent / Temporary

Target	Impact	Comments	Mitigation required
A4	✓, P, L	Will help reduce emissions and nuisance from waste management sites	None
A5			
B2	✗	No mention of greenhouse gases specifically	Mention greenhouse gases in supporting text
B3	✓, P, L	Will help protect all these aspects of the environment	None
B4			
B5			
B6			
B7	?	Requires an analysis of the effects on the local transport network. Waste movements may be quite long distance.	Should require an analysis of the effects on the strategic transport network taking into account the likely source of the waste
B10	✓, P, L	Will help protect these aspects of the environment	None
B11			
C6			
C7			



Task 3.3 Evaluating the significance of impacts

The prediction stage in any impact assessment is essential in describing what will happen to the environment as a consequence of the proposed action. But it is insufficient in itself to fully inform decision-making. The decision also needs to know how important or significant that change is in order to be able to take it into account. This is the purpose of the evaluation stage.

Prediction will have described the changes that will occur - their nature, scale, geographic scope, duration reversibility and probability in as much detail as is possible given the nature of the P/P.

Evaluation of significance then requires consideration of various questions which will establish the importance or “significance” of the predicted impact:

- will the measure in the P/P lead to a risk of environmental standards being breached?
- Could it lead to failure to achieve environmental policies or targets?
- Will it affect environmental resources which are protected by laws or policies e.g. Natura 2000 habitats, species, landscapes, water resources, agricultural resources and cultural sites, etc?
- Could it lead to impacts on environmental resources which, although not legally protected, are important or valuable?

In summarising the resulting evaluation, it may be helpful to continue the tabular format used for prediction and to summarise the findings using a grading system, but as with prediction it is important not to rely on this alone, but also to provide real information about what really matters about the impact.

The case studies did not use baseline data to determine significance. The example from Somerset County Council (*Table 6.4d*), which shows many features of good practice in SEA, used the baseline data to help in formulating the sustainability objectives. These were used to evaluate the impact of the Waste Plan on the environment. The matrices that were completed were not totally based upon a tick-box approach and required an additional level of analysis such as identifying interactions of waste management methods e.g. consequence of recycling upon need for other facilities.



Task 3.4 Mitigate significant impacts and prepare monitoring programme.

The third step in the assessment stage is to consider whether there is potential to mitigate any impacts which are identified as significant. Mitigation may involve preventing impacts altogether, reducing their magnitude and/or probability of occurrence, or putting in place measures to remedy effects after they have occurred, or to compensate for them by providing environmental benefits elsewhere.

Mitigation options can range from:

- fundamental changes to the P/P, for example choosing an alternative with a lower impact overall;
- to “fine tune” elements within the P/P to ensure their impacts are reduced.

The most usual approach is, for example, a land-use plan would be to re-draft development policies to place restrictions on the location, design or operation of certain types of proposed development.

Article 10 of the SEA Directive requires that:

“1. Member States shall monitor the significant environmental effects of the implementation of plans and programmes in order, inter alia, to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action.

2. In order to comply with paragraph 1 [above], existing monitoring arrangements may be used if appropriate, with a view to avoiding duplication of monitoring.”

Although it is not possible to predict where unforeseen impacts may arise, where there is a large degree of flexibility in terms of the types of development that may arise as a result of the P/P, this uncertainty should be reflected in the design of the monitoring programme.

As part of the SEA, existing monitoring networks, which can provide data showing changes in the environment attributable to implementation of the P/P, should be provided.

Given that there is very little experience of monitoring in virtually all Member States, meeting the requirements for monitoring as stated in the Directive is going to be one of the most challenging parts of undertaking SEA. A recent report published on behalf of the European Union Network for the Implementation and Enforcement of Environmental Law (‘IMPEL network’) focused upon how to implement Article 10 of the Directive. The network looked into the practical and methodological aspects of monitoring and provided an overview of the current practice in a limited number of Member States.

The study noted that the Directive does not clarify the term “monitoring”. It suggests that one such definition could be,

“Monitoring is an activity of following the development of the parameters of concern in magnitude, time and space”. (IMPEL, 2003)

The IMPEL report also suggests that most monitoring activities are made up of data collection followed by data processing and data evaluation but that in reality, the way in which monitoring takes place shows enormous variation. One common feature seems to be reliance upon the collection of baseline information. Since the preparation of the SEA report may involve an overview of such baseline information it is important that the proposed monitoring programme is consistent with the SEA report and its conclusions.

For example, where significant effects have been identified then there should be corresponding commitments to monitor the implementation of the relevant part of the P/P (IMPEL, 2003). Similarly, where there are gaps in baseline data and this data could be collected by the authority responsible for the P/P, then it should feature as a monitoring proposal. Similarly, where the environmental objectives, indicators and targets feature in an SEA report, they should link to any proposed monitoring of the indicator.

Russell (1999) notes that although UK local planning authorities have been monitoring the results of plan-implementation for years, only 36% of the

respondents to a survey of local authorities had made any reference to monitoring the changes in environmental terms. This may, of course, take place through the preparation of a 'State of the Environment Report' in the UK but this is not normally related to the SEA process. In Ireland there are a variety of sources of environmental monitoring data on either a local, regional or national basis. The EPA produces a wide range of indicator data in the following reports:

- State of the Environment Reports (every 4 years; next due 2004);
- Environment in Focus Reports (every 4 years; next due 2006);
- Sectoral indicator reports (e.g. Transport, Rural Indicators);
- Annual Water Quality, Air Quality and Waste Reports.

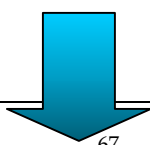
SEA practitioners should also be aware of existing monitoring networks which may provide data showing changes in the environment attributable to the implementation of the P/P. Given that there is lack of a centralized monitoring network in Ireland there will be pressure upon central government and state agencies to make data freely available. Practitioners should note that there is no obligation to monitor all impacts directly and that it is acceptable to measure indicators that measure the impact indirectly. It is also important to note that SEA practitioners will not be expected to expend significant resources on monitoring and that the emphasis should be on verifying the predictions made in the SEA process.

There are two recent developments that may help in ensuring that monitoring becomes more efficient in Ireland:

1. The National Development Plan (NDP), through the Productive Sector Operational Programme 2000-2006, provides for the establishment of a National Environmental Research Centre of Excellence within the Environmental Protection Agency. The NDP states that this would allow for a more structured approach to research than at present, and would provide stronger environment support across the new Community Support Framework. The Operational Programme states that the priority programme for the centre will include the following:

- information systems development;
- integrated environmental assessment; and
- environmental management systems.

2. The North-South Ministerial Council have agreed to establish joint registers of current environmental research and sources of environmental information, which will prove useful for SEA practitioners seeking sources of data. A web-based resource titled EDS (Environmental Data Sources) will provide access to information on environmental research and sources of environmental data in Ireland for environmental researchers, organisations, decision-makers and the public. At the moment, the amount of data held on EDS is extremely limited but a concerted effort by those responsible for recording current monitoring data can make this database a useful tool for the purposes of SEA.



Task 3.5 Justification for selected P/P alternative

This task involves identifying which is the preferred alternative, based upon environmental grounds, and accurately describing these grounds for the choice of preferred alternative. It may well be the case that the preferred alternative is not the best in terms of environmental impacts. Where there is a balance to be struck between environmental economic and social concerns, it should be made clear in the SEA Report.

As stated earlier, it is most important that the do-nothing scenario is considered as a "benchmark" against which the other choices are compared. It should be noted that in many cases, the option to not develop and implement the P/P might not be a reasonable or even a legal alternative.

SEA practitioners should therefore highlight where the chosen alternative provides benefits on the environment as compared to the do-nothing scenario.

Comparisons of alternatives may be presented in tabular form in the SEA Report for ease of interpretation and analysis. As with prediction and evaluation, the use of grades or scores may be helpful for presentation purposes but the reasons for choosing the proposed P/P should always be explained in terms of the actual impacts of the alternatives and their importance.



Output 3: SEA REPORT

This is the main output of the SEA process and will be the document that most stakeholders will review. The SEA Directive requires that specific information be provided in the "environmental report".

The information required to be contained in the SEA Report is identified in Annex I of the SEA Directive. However, SEA practitioners are encouraged to create a format that not only contains this information but also conveys it in a useful manner.

A possible format for this information is suggested below:

1. Non-technical summary (may be provided separately)
2. Introduction
3. SEA Methodology (including timescale, authors, methods used, technical limitations).
4. List of Consultees and Stakeholders
5. Summary of the elements of the P/P measures and any alternatives
6. Outcomes that may result from the P/P
7. Relationship with other relevant plans and programmes
8. Description of the baseline environment including the evolution of the environment under the "do-nothing" or "do-minimum" scenarios.
9. Environmental objectives, indicators and targets
10. Prediction and Evaluation of impacts of the P/P (including alternatives)

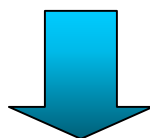
11. Incorporation of mitigation measures and assessment results into the P/P.
12. Proposals for monitoring of implementation of the plan
13. Summary of findings and recommendations (including linking the SEA to other P/P and EIA)

Qualities of a good SEA report will therefore include:

- Clear descriptions of the P/P, its outcomes and impacts avoiding unnecessary use of jargon;
- A logical, coherent structure;
- Effective use of graphics – maps, diagrams, etc – summary presentation formats such as tables, matrices;
- consistent style in terms of editorial approach and level of detail.

However, SEA practitioners are encouraged to create a format that not only contains this information but also conveys it in a useful manner to its audience, decision-makers and environmental authorities and the public in an effective manner. Practitioners should understand the importance of adopting a consistent “house-style” for their SEA report and should avoid turning the report into a public relations document. Using independent consultants to undertake the SEA and prepare the report can help to solve problems of bias. However, impartial reporting is only made possible by clarity, explanation, thoroughness, careful use of language and a commitment to fair reporting. Experience in other SEA systems has shown that the optimum SEA team is composed of primarily in-house staff supported by external expertise.

There are many techniques ranging from those employing graphic-intensive maps and matrices to text-based reports, each of which can be effective in different of situations. The best reports tend to use a mixture of both graphical and text-based modes of information so that they communicate effectively with a diverse audience (Curran, 1995).



Task 3.6 Quality Review of Draft Report

The SEA Directive requires Member States to ensure that the SEA documentation is of “sufficient quality” to meet the requirements of the Directive.

The SEA Report may undergo an internal quality review to ensure that the SEA Team has addressed all of the requirements of the directive. However, to meet the requirements of the directive, an independent review should also be undertaken by an external reviewer. The SEA Report Checklist can be used for both internal checks and for independent quality reviews. The SEA Report Checklist is presented in *Annex D*.

SEA practitioners can also use this checklist as a planning and progress review checklist during the SEA process to ensure that the assessment is comprehensive and meets the requirements of the SEA Directive.

Both the SEA report and the draft P/P should then be made available to the public for a suitable period of time that will allow the documents to be reviewed and responses to be drafted (see Stage 4).

6.5 STAGE 4: CONSULTATION, REVISION AND POST-ADOPTION ACTIVITIES

Consultation Period

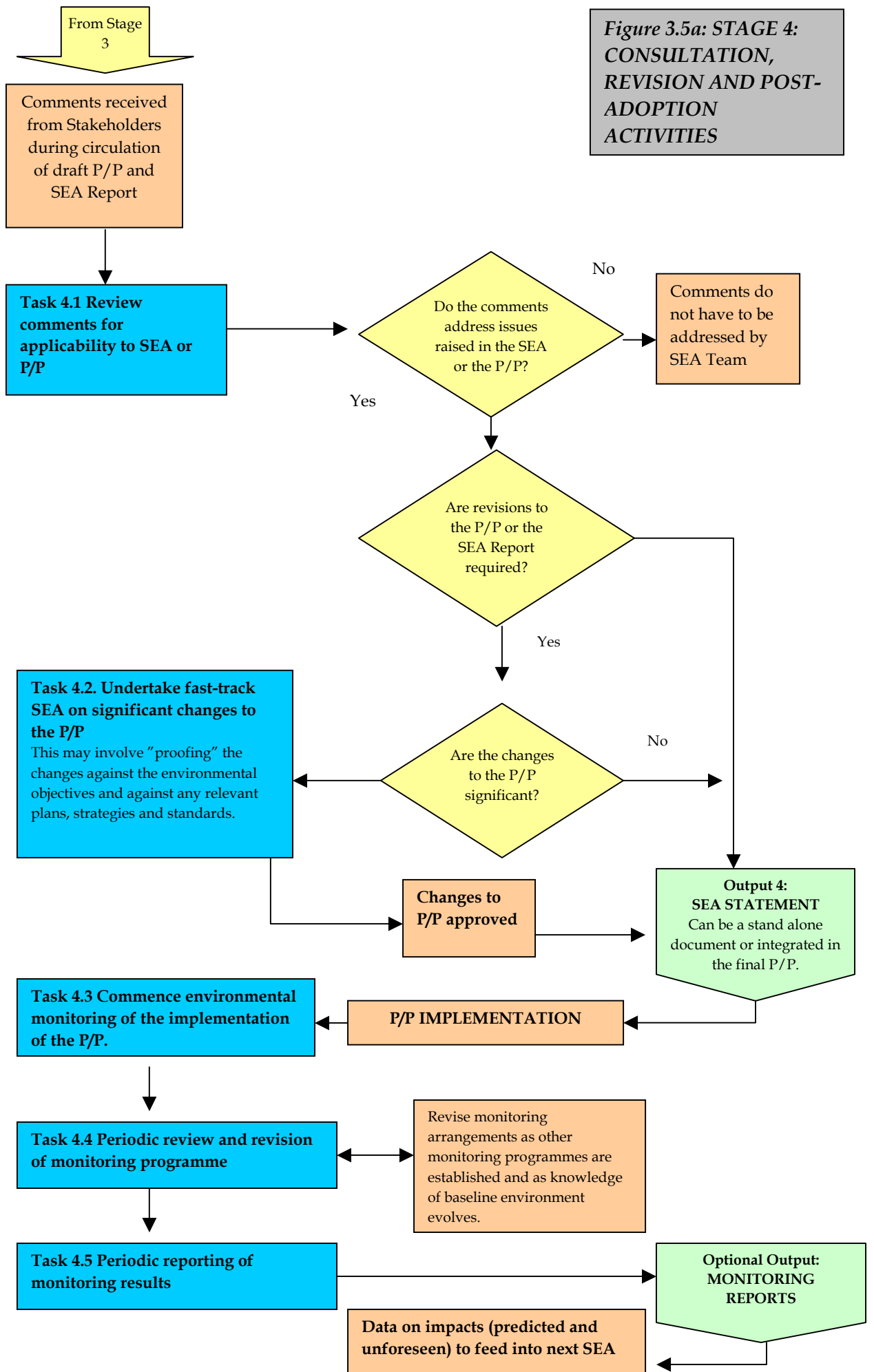
Once the SEA report has been made available to the public within the area identified as the receiving environment, it may be necessary to allow other stakeholders in other neighbouring areas the opportunity to comment. This is particularly relevant to Waste Management Plans, River Basin Management Plans and any other P/P that may influence the movement of natural resources and waste emissions areas across boundaries. Hopefully this will encourage more corporative, combined and inter-authority communication. Consultation during SEA is described in more depth in *Section 7*.

On an international level, the need to consult other Member States is a requirement of Article 7 for the SEA Directive. The requirement is similar to that in the amended EIA Directive and effectively states that where significant impacts in another Member State may occur, that the other Member State must be involved in the consultation and public participation procedures. This also follows the requirements of the 1991 UNECE Convention on EIA in a Transboundary Context ("the Espoo Convention") to which Ireland is a party. An SEA protocol, which will extend the scope of the Espoo Convention to plans and programmes, is expected to be adopted in May 2003.

In Ireland, there have only been a handful of occasions whereby the authorities in the Republic and Northern Ireland have had need to invoke transboundary procedures for projects requiring EIA. The implementation of the SEA Directive will have greater implications for Counties along the border. The preparation of a wide range of P/P and undertaking SEA on these P/P could involve engaging authorities and the public across the border. For example, P/P which may operate in Cos. Monaghan, Donegal, Louth and Cavan all will have the potential to interact with other counties in Ulster via their plans and programmes. With regard to river catchments, the Water Framework Directive requires that river basins, which cross national frontiers, will be defined as "International River Basin District" and the Member States involved must together ensure the co-ordination of measures for its implementation. In Ireland, this will involve joint action with authorities in Northern Ireland in relation to cross-border catchments. It seems likely that these IRBD's will include the Shannon basin, the Erne/Foyle/Swilly, and Melvin basins, and the Lough Neagh River Basin Carlingford Bay and Dundalk basins (see <http://www.wfdireland.ie>). However, since the relationship between the SEA and Water Framework Directives has not yet been fully defined, the arrangements for cross-border consultations await to be established.

Authorities will have to prepare for such consultations early in the SEA process, in terms of timetabling the SEA and P/P-preparation process and addressing transboundary issues in the scoping stage.

Figure 3.5a: STAGE 4: CONSULTATION, REVISION AND POST-ADOPTION ACTIVITIES



Task 4.1 Review comments for applicability to SEA or P/P.

Comments will be received from stakeholders during consultation on the draft P/P and SEA Report. Where the P/P has a regional or national significance, it is possible that significant numbers of comments may be received. All comments should be recorded and the authority will have to determine the appropriate response to make with reference to the SEA process:

- No action to be taken
- Revise assessment
- Revise P/P

In order to determine the appropriate response, authorities will have to ask the following types of questions:

- Is the comment relevant to the SEA process or is it better addressed during assessments carried out at other stages (e.g. project-EIA)
- Is the comment likely to lead to the identification of unexpected adverse environmental impacts?
- Is the comments related to environmental, rather than economic or political issues?
- Is the comment related to any of the environmental objectives that were developed to assess the impact of the P/P?



Task 4.2 Undertake "fast-track" SEA on significant changes to the P/P

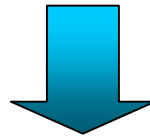
Once the comments have been reviewed, it must be decided if they warrant the revision of the SEA findings and/or warrant the revision of elements of the P/P.

It is acknowledged that changing elements of the P/P based upon public comments is part of the P/P preparation programme for nearly all plans and programmes in Ireland. However, it is important that any proposed changes are as a result of such changes also subject to assessment so that new significant impacts are not caused. A "fast-track" review will usually be sufficient to keep the SEA process "watertight" so that no revisions pass through the process without being assessed.

A fast-track SEA will involve "proofing" the changes against the environmental standards, objectives and targets and against any other relevant environmental quality objectives, plans, strategies and standards.

Changes resulting from consultations may be more major and therefore require detailed re-assessment. In this case the process may need to cycle back to Stage 3.

Once the final form of the P/P has been decided upon, the SEA Statement can be prepared.



Output 4: SEA Statement

The Directive suggests that the “SEA statement” is enclosed within the final version of the P/P. The statement, which does not have to be lengthy or complex in content, needs to include the following:

1) Summary of how environmental considerations have been integrated into the plan or programme.

This should include a flow-chart showing the stages of the SEA process and a commentary stating how the process was linked to the various stages of P/P preparation.

2) Summary of how the SEA report and the submissions received from stakeholders have been taken into account

This should summarise the key issues raised in the SEA Report and submissions and state in response to them and any reasons why the P/P has been developed or modified to reduce its environmental impact.

3) Reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives considered.

The statement should identify the other alternatives considered, comment on their potential impacts and explain why the proposed P/P was selected, including any environmental reasons. Reference to the do-nothing scenario should be made.

4) Measures decided concerning monitoring.

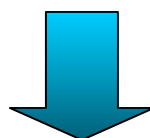
A proposed monitoring programme should be described, specifying showing frequency of monitoring, reporting and responsibilities. This will reflect the decisions made in Stage 3, but there may have been revisions made as a result of new information since the publication of the SEA Report.



Task 4.3 Commence monitoring of the implementation of the P/P.

The monitoring programme should commence as soon as the new P/P is adopted.

Note that certain types of P/P (eg Waste Management Plans), will have their own monitoring requirements which can sensibly be integrated with the SEA monitoring programme.



Task 4.5 Periodic revision of monitoring programme

Many P/P may be implemented over several years. It may therefore be necessary to revise the monitoring programme at periodic intervals so that it takes account of new methods and increased understanding of the baseline environment.



Task 4. 6 Periodic reporting of monitoring results

The regular reporting of monitoring results is necessary so that the actual impacts of the P/P can be evaluated. This is an essential element of implementation, as it will help to refine the P/P and scope any revisions to the SEA when the P/P is revised. It will also provide useful information for future assessment of other P/Ps.

Sometimes the P/P may be amended during its lifetime (e.g. rezoning of land-use). Although at present this generally occurs due to other pressures (e.g. political and economic), the feedback from monitoring may indicate unforeseen environmental impacts that warrant amending the relevant part of the P/P.

To ensure that verification of the predictions made in the SEA process is carried out effectively, there should be thorough cross-referencing between the monitoring programme and the SEA. There should also be a timetable for reviewing the results of monitoring and commitments made to ensure that recommendations for revisions to be made to the SEA methodology can be documented.



***USE RESULTS IN REVISING P/P AND
UNDERTAKING NEXT SEA***

7 CONSULTATION AND PUBLIC PARTICIPATION IN SEA

7.1 INTRODUCTION

There are certain aspects of the SEA process (as set out by the SEA Directive), which will prove to be particularly challenging to implement, as described in *Section 5*. One of these is the role that the public and other stakeholders will have in the process. This Section describes the consultation and public participation requirements of the SEA Directive and proposes consultation methods that may be appropriate at each stage in the SEA process. Incorporation of these observations and recommendations into the methodology described in *Section 6* will enhance the SEA process and facilitate communications with those stakeholders not normally consulted.

7.2 EXISTING CONSULTATION AND PUBLIC PARTICIPATION PROCEDURES IN IRELAND

The public is increasingly demanding a role in decision-making in Ireland. People want to know how a plan or programme may affect them, how the proponent intends to address the predicted impacts, and how decisions will be made.

Such public participation or consultation in Ireland occurs via structured processes of exchanging information, responding to concerns, and in some cases forming consensus and negotiating positions.

To date, however, many best-practice examples exist and there are several legal requirements for such consultation to be undertaken. Existing consultation procedures in Ireland fall into three categories:

- Those that are required under the *Planning and Development Regulations, 2001* for both public sector and private sector activities;
- Public sector policy development consultation procedures that are in-place, yet are not required under law; and
- Public and private sector development orientated consultation procedures that are determined, and undertaken on a case-by-case basis.

7.3 CONSULTATION AND PUBLIC PARTICIPATION IN THE SEA DIRECTIVE

7.3.1 Overview

The SEA Directive states that consultation is obligatory during the following procedures:

- **Screening:** authorities must be consulted when undertaking case-by-case screening or when specifying certain types of P/P requiring SEA (Article 3(6)). The public must also receive notice of the outcome of screening. The “authorities” and the “public” must be identified according to Article 6(3 and 4).

- **Scoping:** environmental authorities (Environmental Protection Agency, Department of the Environment and Local Government) must be consulted on the scope and level of detail to be covered in the SEA (Article 5(4)).
- **SEA reporting:** the public and environmental authorities must be given an opportunity to comment on the report, but there is no clear requirement for active consultation, as opposed to more passive participation by the public. However, “*the detailed arrangements for the information and consultation of the authorities and the public shall be determined by the Member States*” (Article 6 (5)). This requirement will ensure that Member States establish a more formal basis for consultation including deciding exactly where, when and how it should take place. Note that Article 6 states that “appropriate” timeframes should be set for consultation responses to be received. Such timeframes will vary to reflect the scale and nature of the P/P.
- **Transboundary consultations:** where there may be significant effects upon a neighbouring Member State then the neighbouring State may enter into consultations with their own public and environmental authorities (Article 7 (2)). The principle environmental authority in Northern Ireland is the Environment and Heritage Service, which has a broad remit covering everything from industrial pollution control to the protection of archaeological sites.
- **SEA Statement:** Article 9(1) provides for the publication of a statement, which must be made available to the public and to the relevant authorities.

Under the SEA Directive no other requirements are in place for pro-active consultation and involvement in the SEA process (pro-active meaning that the SEA practitioner will have to seek the views of stakeholders as compared to passive-style activities such as making documents available for comment).

The main aim of the SEA Directive is to consider and integrate environmental concerns from the onset of the process. It is widely acknowledged that this can best be achieved if the views of the public and affected groups are fully taken into consideration throughout the P/P -preparation process. As such consultation and public participation are integral to SEA.

The aims of consultation and participation in SEA are to:

- enhance transparency in decision making, by providing information which allows for early identification and mitigation of impacts;
- provide a more comprehensive understanding of the baseline environment and relevant key individual and community issues and values, (so more comprehensive data can be integrated into the preparation of the P/P);
- obtain information about potential environmental effects at an early stage of the SEA process; and

- increase understanding, avoiding unnecessary controversy and delays in the decision making process at later stages due to public opposition arising from lack of understanding.

SEA can therefore contribute to more transparent planning, through the involvement of the public and through integration of concerns raised into the decision making process.

The role of consultation at each stage in the proposed SEA methodology is outlined below.

7.3.2 *Opportunities for Consultation*

Stage 1: Screening of Plans and Programmes

The decision as to whether an SEA is required for a particular plan or programme, may be determined by legislation, local requirements or an identified need for SEA. Consultation of the public is not mandatory (under the SEA Directive) during this stage but at this screening stage will ensure that the authority responsible for deciding if SEA is required, appreciates public views on any environmental issues associated with the P/P. Note that consultation of authorities is only mandatory for P/P which undergo “environmental significance screening” i.e. case-by-case analysis.

Stage 2: Scoping

Scoping is a crucial step in ensuring that the SEA is focused and is fit-for-purpose. Consultation with the public during the scoping stage will provide the opportunity for dissemination of information on the P/P and to seek views on which impacts the public considers should be addressed in the SEA. Consultation of environmental authorities is mandatory under the SEA Directive during this stage but it is also good practice to consult other key stakeholders.

If such consultation is undertaken early in the *Scoping Stage* it should result in following benefits:

- enable local knowledge of the baseline environment to be accessed and understood;
- enable early identification of environmental issues and potential impacts;
- enable an understanding to be gained of underlying community values which may determine the feasibility of proposing certain alternatives; and
- allow for possible mitigation and/or preventative measures to be identified and explored early on.

There is an important role for professional non-governmental organisations at this stage in particular. They can help to coordinate, facilitate, organise and report to the authorities during the scoping process and can make valuable representations on behalf of the community.

Stage 3: Prediction, Identification, Evaluation and Mitigation of Potential Impacts

Public consultation and participation at this stage can be particularly effective in SEA. This is because, as stated earlier, SEA may need to rely upon subjective value-judgements to make impact predictions rather than the use of inappropriate technical prediction models. It may also be useful to involve specialists from State agencies, NGOs and other bodies at this stage, for the purpose of defining opinions on the likely magnitude and significance of impacts.

Consultation during this stage will also be valuable in gathering baseline information from relevant agencies, public bodies, stakeholders and the general public, thus continuing the consultative process commenced during the earlier scoping stage. A specific example of participation particularly relevant to SEA is involving the public in developing future scenarios in which to explore the potential impacts of a plan or programme. This can facilitate the generation of alternatives and can assist in screening out the less feasible alternatives. SEA practitioners may find techniques such as focussed workshops being useful in these circumstances.

Stage 4: Consultation, Revision and Post-Adoption Activities

The inclusion of the SEA report alongside the draft P/P is traditionally the stage where the public have the opportunity to scrutinise the results of the SEA process. As such, the SEA report provides a public document that the public can comment on. The results of this consultation are then considered, and incorporated into the finalisation of the P/P where appropriate.

For public consultation and participation to be effective at this stage it is important that:

- the SEA report is made available for review sufficiently early to inform the decision-making process (i.e. at the same time as, and not after, the publication of the draft P/P);
- the public are notified how they can obtain a copy of, or view a copy of the SEA report (it is usually located in the same location as the draft P/P);
- the public have an appropriate time to review the SEA report (usually the same amount of time as the draft P/P);
- comments from the public are encouraged;
- comments received are recorded; and
- comments received are properly taken into consideration by the decision-makers.

An "SEA statement" will then be prepared and disseminated (*Output 4*). It should describe how environmental considerations, and the views of consultees, have been taken into account in shaping the adopted P/P.

With regard to monitoring the environmental effects of implementing the plan or programme, consultation with public and stakeholder groups as a means of monitoring the implementation of a P/P has often not been undertaken in the past. This stage of consultation provides a valuable opportunity for the public to provide data that may have been overlooked in previous stages, for

example regarding the impact of the P/P on changing quality of life, the use of environmental resources, or the use of community facilities. Although the parameters that may be measured are primarily social rather than environmentally-oriented, it will become increasingly important to measure such social impacts in order to ensure that development is also socially sustainable.

The public should also be given access to monitoring reports and may often provide useful observations on the evaluation of monitoring data.

7.4 TYPES OF CONSULTATION

Many different forms of public consultation exist. They aim to achieve different levels of involvement, by different groups of the public. At the most basic level, public consultation aims to inform or educate the public about an issue, while at its most advanced, it facilitates community decision-making.

The various stages of the SEA process have different consultation aims, as identified above. These aims can be fulfilled by a number of consultation types and techniques. (Note that these reflect good practice in SEA and exceeds the requirements of the SEA Directive). The techniques are summarised in *Box 7.4a* below:

Box 7.4a *Suggested consultation and public participation methods for the SEA process*

<i>SEA Stage</i>	<i>Technique</i>	<i>Type</i>
Stage 1: Screening	Focus Groups	Targeted consultation to ascertain broad views
	Printed materials	Provision of information/ consultation with targeted public and stakeholder groups
	Information Repository	Information held on file available for public access
Stage 2 Scoping	Exhibition, Road show, open days, online surveys	Provision of information/ consultation with broad range of the community
	Steering Group	Focused consultation/ participation. Can involve officials and the public representatives
	Surveys & Questionnaires	Consultation with targeted public and stakeholder groups
	Workshops	Consensus/ participation/ consultation
	Field Trip	Provision of information
	Electronic information	Information/consultation with facility to receive electronic feedback.
Stage 3: Identification and Evaluation of Impacts	Focus groups	Information/consultation/ participation
	Public Meeting	Information provision to public and stakeholders
	Interviews	Information/ consultation

	Consensus Conference	Information/consultation/ participation
	Advisory Committee/ Steering Groups	Consultation/ participation
	Issuance of SEA Report and receipt of comments	Information/consultation/ participation
	Public Display/Exhibition, websites.	Opportunity for anyone to view and ask questions of the report.
Stage 4: Consultation, Revision and Post-Adoption Activities	Advisory Committee/ Steering Groups	Consultation/ participation with key groups to identify any changes required to draft P/P
	Publishing of SEA Statement, website.	Provision of information

Whilst SEA practitioners may perceive SEA as adding additional burdens to their timetable for the production of plans and programmes, it should be started that there are consultation techniques already employed for a range of P/P and that meeting the needs of the SEA process requires and change of approach rather than increasing workloads.

7.5 *INTEGRATION OF SEA REQUIREMENTS INTO EXISTING PROCEDURES*

7.5.1 *Introduction*

This section describes an effective consultation programme that was undertaken as part of the preparation of the Ballymun Regeneration Master Plan. It aims to show the range of types of consultation that can be used to collect information from the public and to inform them on the Plan.

7.5.2 *Examples of Consultation Procedures in Practice*

The preparation of the Ballymun Regeneration Master Plan involved one of the most extensive and innovative, not to mention successful public consultation and participation programmes in Ireland to date. The various methods that were used are listed below.

- Public meetings.
- Area Fora (in the five areas of Ballymun).
- Design groups composed of the area fora, Ballymun housing task force, the Eastern Health Board, and local community groups met the project team each week to develop and refine their ideas.
- Surgeries/Drop-in. These were held every fortnight at the Ballymun shopping centre. These proved very useful for people who were not comfortable raising issues in groups or who could not attend the public meetings.
- Newsletters (bi-monthly) are distributed throughout life of project -

- Public events. For example, a Planning Day was held. Over 200 people attended and it assisted in establishing key concerns of the community. The Planning Day included a series of question boards, which posed questions and presented options in relation to the key issues. One on one consultation was also used in addition to surveys.
- Focus groups established to discuss the six key issues – children and youth, training and education, employment and economic development, advice support and community development, leisure, sport and recreation, and health and the physical environment.
- Working groups established to deal with issues such as training and employment, local estate management and home ownership.

These consultation and public participation procedures were used to facilitate the planning process but not specifically for the purpose of the “environmental appraisal” that was undertaken. However, it demonstrates the range of techniques into which the consultation requirements of the SEA process could be integrated. These techniques worked particularly well at the local-level of interaction.

The SEA of the Draft Dublin Docklands Master Plan Review in 2003, involved the consultation of a wide range of bodies at the scoping stage. A separate consultation programme had been undertaken by consultants for the purposes of reviewing the Master Plan. The SEA Team used the feedback from this exercise in facilitating the drawing up of their sustainability objectives, which were used to assess the draft Master Plan.

8 SEA REPORT QUALITY

8.1 INTRODUCTION

As stated in *Section 5*, there are certain aspects of the SEA process (as set out by the SEA Directive), which will prove to be particularly challenging to implement. *Section 7* describes the challenges of consultation and public participation and this section describes the task of ensuring the quality of the SEA process and its outputs. It describes the requirements of the SEA Directive in terms of ensuring the quality of SEA reports, and a proposed methodology that could be applied to the review of SEA reports in Ireland.

8.2 REQUIREMENTS OF THE SEA DIRECTIVE

“Member States should communicate to the Commission any measures they take concerning the quality of environmental reports.” (Preamble (14))

“Member States shall ensure that environmental reports are of a sufficient quality to meet the requirements of this Directive and shall communicate to the Commission any measures they take concerning the quality of these reports.” (Article 12 (2))

As stated above, the directive requires Member States to ensure that the SEA report meets the information requirements listed in Annex I.

Quality checks have been practiced on EIA reports (called Environmental Impact Statements (EISs) in Ireland) since the early 1990s, using a variety of established checklists published by the European Commission and the Lee-Colley checklist from the EIA Centre, University of Manchester (EC, 2001, Lee, Colley et al 1999). Their application to a broad range of EIAs has led to many academic reviews of the changes in EIS quality over period of years (Dancey, 1993 etc) and has highlighted where improvements are needed.

However, quality review of documents is not the same as reviewing the quality of the impact assessment process. Although there is no requirement for this in the SEA Directive, there is a requirement to demonstrate transparency in decision-making in screening and taking the results of assessment into account, which implicitly requires a clear “audit-trail” to be laid by the SEA practitioners. This audit-trail could be easily checked to evaluate compliance with the directive and the effectiveness of the process as a whole. Specifically, SEA practitioners should ensure that the following aspects of the SEA process are recorded clearly:

- Record of the screening decision;
- Record of Consultations with Environmental Authorities over the level of detail and content of the SEA Report;
- Record of issuance of Screening Statement;
- Record of Comments received on Screening Report
- Record of internal quality review of SEA Report;
- Record of SEA report being made available to the Public;

- Record of comments received on SEA Report;
- Record of how comments were taken into account in the final P/P;
- Record of issuance of SEA Statement;
- Record of proposed monitoring programme.

Reviewing the quality of the SEA report will reveal how effective the process were at generating information on the baseline environment, impacts, mitigation measures, alternatives etc. Since the SEA report has to include outputs of these tasks, the checklist can also be viewed as a diagnostic tool to appraise the SEA process.

8.3 *QUALITY REVIEW OF SEA DOCUMENTATION*

8.3.1 *Review Checklists*

Reviewing the quality of an SEA report after it has been produced may seem a little late to have any benefit to the overall SEA process, but it is one of the key methods by which SEA practitioners may receive feedback on the adequacy of the SEA report. This will ensure that SEA methodologies can be improved and will evolve.

Reviewing the quality of the report will reveal how effective the procedures were at generating information on the baseline environment, environmental objectives, and generation of alternatives etc. Since the SEA report has to include outputs of these tasks, the review checklist is also viewed as a diagnostic tool to appraise the SEA process.

As experience of reviewing SEA reports accumulates, commonly occurring problems which have been identified can be traced 'upstream' to particular aspects of the SEA process and tackled 'at source' (Scott et al, 1999). For example, consistent weaknesses might be due to insufficient baseline data inadequate consultation of environmental authorities, or lack of SEA experience or attitudes of the personnel involved. Once the results of the review have been analysed, any subsequent SEAs should take the results of the review into account to facilitate a better assessment process and as a result, better SEA reports.

As stated earlier, Review Checklists have been used to evaluate the quality of EISs in the UK for over ten years. Review Checklists from the UK (Lee-Colley, Institute of Environmental Management and Assessment etc) and the European Commission are most widely used and have been updated to reflect changes in the EIA requirements that emerged in 1997 (Lee et al, 1999, EC, 2001).

8.3.2 *Development of an SEA Report Checklist*

During this research project, the European Commission's EIA Review Checklist was revised and amended to apply to Irish SEA Reports. It takes into account the SEA Directive's requirements and any additional features of good practice that should be addressed. Although other Review Checklists could have been chosen, the EC EIA Checklist is used widely by EIA practitioners and is aimed at the practitioner specifically, rather than other

review checklists that are used to compare EISs and to measure quality changes over time.

The revised Checklist that may be applied to SEA Reports is described in *Annex D*. It was piloted on an Irish Development Plan that had undergone a type of SEA. Minor adjustments to the review questions were made on the basis of the pilot. The results of the pilot have not been included in this Report as it was not thought that it would not be fair to the authors of the Report since the SEA was not undertaken in accordance with any guidelines or regulations.

The Checklist can be used for three purposes:

- 1) By SEA practitioners, to allow them to internally check the progress of the SEA process to ensure that the correct outputs are being generated.
- 2) By SEA practitioners, to allow them to internally review the quality of the SEA Report prior to its public release.
- 3) By SEA practitioners, consultants and third parties to evaluate the quality of the SEA Report after its publication.

As shown above, the checklist that has been generated during this project is not solely designed as a review checklist but can be used as an ongoing verification list to ensure that the SEA is “on course”.

9 CONCLUSIONS AND RECOMMENDATIONS

9.1 INTRODUCTION

This final Section provides an overall summary of the results of the research project on the development of a Strategic Environmental Assessment methodology for plans and programmes in Ireland.

This section also provides key recommendations that translate the results of the research into action points. These action points are intended to provide central Government and SEA practitioners with tasks and targets that should be achieved in order to ensure effective SEA in line with international good practice and in compliance with the EU SEA Directive.

9.2 KEY CONCLUSIONS

Conclusions that have been drawn from the preparation of an SEA methodology for development plans and programmes in Ireland are structured below, according to the five original research tasks (see Section 1).

The conclusions that have been drawn in response to these Tasks are as follows:

9.2.1 *SEA Methodologies around the World, Strengths, Weaknesses and Overall Effectiveness (Tasks 1 and 2)*

Due to the large amount of material on existing SEA systems around the world, it was decided that it would be more useful focusing on the key stages in the SEA process which can be particularly challenging. These are listed below with their relevant conclusions.

- *Screening of Plans and Programmes*
 - Several countries have formulated screening regulations or prepared screening guidelines (eg Belgium, the Netherlands, Finland) specifically focus on the SEA of legislation or government bills, rather than other P/P within their approach to screening (Canadian Environmental Assessment Agency, 2000). The screening stage could also be used by the agencies involved, to agree about the administrative structure and timetable of the SEA procedure and the form of any linkages with the planning process. It can also be linked to scoping since many of the screening methods (using checklists, consultations etc) help to define the types of impacts that the plans and programme may incur on the environment (DHV, 1994). *Scoping*
 - The topic of scoping was very rarely encountered in the international literature and was only adequately discussed in UK guidance (1993) on environmental appraisal. However, it was clear that the scope or coverage of an SEA should be decided by consultation with authorities or may involve public participation, that a scoping report should be

produced and that scoping may use a variety of methods to identify environmental objectives and baseline data.

- *Consideration of alternatives*
 - The review of literature indicated that this was one of the most complex stages in the SEA process. In 1994, the EU-funded review of SEA methodologies identified that most SEA reports considered different options but to optimise the time spent on the SEA, the number of strategic alternatives should be limited to between three and five. The draft UK guidance suggests a hierarchy of alternatives that may be considered and that transparency was an important factor. Very few countries worldwide seem to have formalised the treatment of alternatives in SEA.
- *Types of impact assessment*
 - Two types of assessment, baseline-led and objective led were described, both having their own strengths and weaknesses. Evidence from several studies and from the UK guidance showed that the majority of advice pointed toward using both approaches in combination.
- *Prediction of impacts and management of uncertainty*
 - International good practice (IAIA, 2002a) rather than formalised SEA systems indicated that prediction was a flexible and adaptable process and that SEA, by its nature, adopts a higher level of uncertainty than EIA. The key lies in being able to describe the uncertainty effectively.
- *Consultation and Public Participation*
 - There has not been a great deal of investigative research into the use of consultation and public participation in other SEA systems but there is a great deal of literature on methods of consultation and what should be done. Studies undertaken for the EC (ERM Ltd, 2000) showed that consultation worked best when it took place early and continued throughout the process. Evidence from Japan was revealing in that the timing of SEA in the overall P/P-preparation process was crucial to the success of consultations.
- *Quality Control*
 - Formal procedures for quality control have been developed in the SEA systems implemented in the Netherlands, Canada and Denmark. These procedures all require review of the SEA report by a central Commission or authority with this designated function.
- *Horizontal and vertical linkages*
 - Passing on the benefits of SEA to similar P/P or P/P in the same hierarchy is an important part of SEA. Work By Fischer (2000a) has revealed that vertical tiering exists but that there is little horizontal tiering within levels in practice. Using consistent sets of SEA criteria and raising awareness of the benefits of SEA may solve this.

- *Integrated assessment*
 - Integrating social, economic and environmental impacts into the SEA process is generally regarded as good practice but is often fraught with difficulties. UK draft guidance makes a cautious approach to the incorporation of multiple issues into the SEA process.
- *Monitoring of impacts*
 - SEA experts have recommended that the monitoring regime should be designed early in the SEA process so that it is compatible with the assessment criteria and *vice versa*. An effective approach that is used in several systems, including the UK, is that monitoring should use the same indicators that were used to describe the baseline environment (ODPM, 2002). Canada and the Netherlands showed evidence of successful application of requirements to monitor the effects of the P/P.
- *Time and cost issues*
 - Research into the time and cost of SEA in the UK showed that the effort involved in SEA should not be underestimated and that the Directive could cause significant increases in the cost of SEAs (Therivel 2003). Choosing a careful balance of in-house and external expertise can help to make the process more efficient. It is important to note that the SEA Directive will introduce new procedures into most P/P -preparation regimes and this will lead to additional costs.

9.2.2 *Plans and Programmes to which SEA may be applied in Ireland (Task3)*

The proposed methodology for screening P/P for the requirement for SEA is stated in *Section 6.2*. It relies upon the systematic application of criteria through staged tasks (pre-screening checks, a decision-tree and the application of environmental significance criteria) to determine if SEA will be required under the Directive. As stated, the majority of P/P will pass through this screening stage relatively easily but it will be the “grey area” occupied by small-scale P/P or minor amendments to P/P which will require greater analysis and, associated with such analysis, the effective communication of the decision via a published report.

9.2.3 *Proposed SEA Methodology Suitable for Application in Ireland (Task 4)*

The proposed methodology is described in *Section 6*. It suggests a four-stage methodology that has been designed taking into account international good practice and also the requirements of the SEA Directive. The proposed methodology is generic in nature and should be applicable to the SEAs of all P/P in Ireland. There will be a need for practitioners to apply the proposed methodology on a case by case basis and make appropriate changes, such as overlooking certain tasks or adding additional tasks, where necessary, to allow the methodology to suit the nature of the P/P and the level at which it applies. Modifying the SEA methodology to the needs of the P/P under

assessment will be an important means of increasing the uptake of the methodology.

Where this proposed methodology is adapted to suit different needs, the new methodology needs to be documented and shared with other authorities to avoid “re-inventing the wheel” when each new SEA is started.

9.2.4 *Recommended Measures for the Integration of SEA into Existing Structures.*

There are several ways in which SEA can be integrated into existing P/P preparation procedures. These are summarized below and expanded upon in the report as stated:

- In order to integrate the SEA process into specific administrative and legislative structures, the common areas and areas of conflict between the SEA Directive and other requirements should be identified. *Compatibility Studies* should be undertaken for relevant EU Directives and also for statutory instruments that provide their own P/P procedures. An example has been provided for the Water Framework Directive in *Annex E*.
- Integrate the team undertaking the SEA with the P/P development team as described in *Section 5.2*.
- Start the SEA process early and plan the process alongside the P/P preparation process.
- Publish the scoping report alongside any Discussion Paper/Issues Paper. It is quite common for authorities to seek the views of the public and other NGOs prior to the preparation of a draft plan or programme. SEA can slot into this stage neatly by issuing a Scoping Report. Even if a Discussion/Issues paper is not published then a Scoping Report can be prepared internally as a formal record of this stage.
- Undertake Stage 3 (Identification, Evaluation and Mitigation of Potential Impacts) *during* the preparation of the draft P/P rather than as an add-on feature.
- Integrate the SEA Report either within the draft P/P or publish simultaneously and promote access to both by the public and other stakeholders.
- Clearly state mitigation measures that will apply either to the implementation of the P/P or to the receiving environment. Mitigation measures must be considered wherever significant impacts are identified. Wherever possible, mitigation should include enhancement of the receiving environment to allow positive benefits to be delivered.
- Integrate monitoring requirements with any existing monitoring networks, sources of baseline data or ongoing research projects.
- Allow SEA to stimulate key changes to existing P/P-preparation practices including:
 - encouraging decision-makers (and others contributing to the decision) to make their decisions transparent and available to the public;
 - increasing transboundary consultations and addressing transboundary impacts (including impacts across County and Regional borders and impacts on Northern Ireland);

- integrating environmental issues much earlier into the P/P-preparation process.
- SEA practitioners should use the SEA report checklist to measure the progress of the SEA process, to identify shortfalls and remedy deficiencies during the process.

9.3 *KEY RECOMMENDATIONS*

The key recommendations that are stated below have been formulated, taking into account the review of international good practice and need to implement the SEA Directive effectively and on time. Many of the recommendations are drawn from comments made by SEA practitioners consulted during the case study analyses.

9.3.1 *Improving the Methodology*

- Screening decisions need to be made publicly available to ensure that the decisions are transparent and to save time and resources when undertaking screening of similar P/P.
- A centralised database of baseline environmental data will allow baseline data to be more accessible for reference during the SEA process, where appropriate. SEA practitioners often do not know what data exists or where they can access data. Compiling data sources will be a function of the EPA's Centre of Excellence. The Centre could also be used to hold results of monitoring of the impacts of plans and programmes and make them freely available to authorities undertaking SEAs. However, it is acknowledged that SEA practitioners do not always need to compile detailed environmental data for the purposes of SEA and will be more likely to refer to broad "state of the environment" reports and annual environmental monitoring reports.

9.3.2 *Effective Implementation of the SEA Directive*

- Central Government should establish key representatives in each Department to coordinate the adoption of appropriate statutory instruments and to ensure that the other recommendations are implemented.
- The proposed methodology should be promoted to authorities to encourage its application prior to the 2004 deadline.
- Sectoral guidelines for key plan and programmes should be published and formally adopted, where possible, including examples of applying the SEA methodology to the Pilot Studies
- Representatives from Central Government Departments, the EPA and other environmental authorities should identify opportunities to apply the sectoral guidelines on a pilot basis.
- An SEA specialist research unit based either the EPA Centre of Excellence or within an academic institution, could be established. The unit could provide several functions including providing advice to those undertaking SEA, encouraging good practice in SEA and maintaining a library of SEA Reports as well as stimulating SEA

research.

- The Irish Government and the EPA should ensure that a series of SEA Training Programmes are set up to take place prior to and following the 2004 deadline. These should be designed to cover a range of sectors.
- An awareness-raising programme should also be carried out, for NGOs, the public and other stakeholders. This should include the provision of leaflets and also workshops to show how to make effective contributions to the SEA process.
- In order to improve the quality of the SEA process and the quality of SEA reports. The requirement to publish Scoping Reports should be made obligatory through the appropriate statutory instruments. The use of SEA Report Checklists should also be formalised, with a range of workshops organised to demonstrate both benefits of pre- and post-publication quality reviews.

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Annex B

Case Study Summaries

B. CASE STUDIES

The research questions that were used to analyse the case studies were as follows:

- What was the timing of the SEA?
- What approach was used in the SEA?
- Who carried out the SEA?
- How does the approach compare to the requirements of the SEA Directive?
- What are the lessons that can be transferred to the development of a proposed methodology?

The intended research outputs were different in each of the case studies. In addition to asking the research question above, the case studies were used to address specific aspects of the SEA process. The results were then used to help form the proposed SEA methodology that is presented in *Section 6* of the Main Report.

The following section summarise the analysis of the case studies.

It is important to note that all of the SEAs and the plans and programmes that were analysed were prepared in the absence of any national requirements or guidelines.

B1.1 ENVIRONMENTAL APPRAISAL OF THE BALLYMUN REGENERATION MASTERPLAN

Summary of Analysis of Case studies

Context: The Ballymun Regeneration Project was made up of a series of small urban developments, each of which individually did not fall under national mandatory requirements for EIA. However, it was decided to undertake an environmental appraisal to provide an environmental context for all the proposed individual developments.

The Masterplan presents a flexible framework for development proposals rather than being a rigid blueprint for a design. It contains the necessary flexibility to provide for changing circumstances and it will be carried out on a phased basis over 8 years.

Detailed design and solutions were not available for all future developments at the stage of the Appraisal and only major impacts were identified. This information was then used in the preparation of Environmental Impact Statements prepared in respect of individual components of the overall development.

EIAs were subsequently carried out for the following developments: Phase 1 Housing, Ballymun Gateway Housing and Phase 2 Housing, 1st Phase Demolition and the Waste Management of Residue.

Timetable: The Environmental appraisal was undertaken after the Masterplan was completed and did not seem to have an influence on the form of the Masterplan.

Structure of Report:

The approach is based upon the EIA regulations and therefore follows the following structure:

- Introduction
 - Structure of the EA
 - Public consultation was intensive from the outset and included open public meetings, area forum workshops, focus groups, Information drop-ins, Newsletters, Questionnaires, Public exhibitions, Working Groups, Design Group, Housing task Force, Stakeholder meetings, Community Consultative Panel, Forum Design Committees.
- Description of Development
 - Aims of proposed development
 - Gives overall description of town centre layout
- Construction, Demolition and Phasing
 - Schematic principles for construction and demolition and phasing strategy
- Alternatives
 - Main alternatives included
 - Do-Nothing (refurbish flats or demolish and rebuild)
 - Options for Ballymun Road/Main Street (including a do-nothing option)
 - Options for scale and mix of use in the town centre.
- Planning and Development Context
- Specific Environmental Impacts
 - Socio Economic
 - Community and Amenity
 - Cultural Heritage
 - Visual Appraisal and Landscape
 - Flora and Fauna
 - Services and Utilities
 - Surface Water
 - Traffic and Transportation
 - Air Quality, Climate and Energy Use
 - Noise and Vibration
 - Soils and Geology

Looks at receiving environment, characteristics of the development, predicted impacts for construction and operational phases.

SEA team profile: Internal team of two coordinators with specialist sections undertaken by sub-contractors.

Changes requires to make the approach compliant with the SEA Directive

- Linking the assessment to broader strategic environmental objectives
- Integrate the SEA into the Masterplan preparation process

Lessons to be integrated into proposed methodology:

This case study was used to determine how the EC EIA Review Package could be adapted to create a SEA Report Checklist that can be used by SEA practitioners to monitor their own progress and to review draft SEA Reports.

The SEA Report Checklist was developed and piloted on the Environmental Appraisal. The results of this exercise have not been made available, as it was not thought to be fair to the authors of the Environmental Appraisal which had been prepared in the absence of any SEA requirements of guidelines.

The Checklist was then revised in the light of this pilot and is attached in *Annex D*.

Summary of Analysis of Case studies

Context: At the time of the writing, the 1998 County Development Plan was being reviewed and the 2004-2010 Plan is being prepared, in accordance with Part II of the Planning and Development Act 2000. The pre-draft consultation process commenced with the publication of a "Planning Issues Paper" which was distributed for consultative purposes. After several public meetings, 571 submissions were recovered and incorporated into a Pre-Consultation Draft Report to the Council which summarised the issues and opinions raised. The SEA took place during the preparation of the draft Development Plan. The Manager's Draft Plan was considered by the Members of Dun Laoghaire-Rathdown County Council in accordance with Section 11(5)(b) of the Planning and Development, Act 2000 and was amended by resolution on Monday the 7th of April 2003 in accordance with section 11(5) (c).

The Draft Development Plan has now been made available to the public and to various statutory bodies for consideration. Written submissions and observations can be made during a ten-week period ending on the 1st of July 2003.

Timetable:

November 2002:	Pre-Draft Consultation Report to Council
Mid-Jan 2003:	SEA and Draft Development Plan completed
Mid- Feb 2003:	Draft Development Plan published
Mid April 2003:	Council considers Draft Plan
April 2003:	Prepare Draft Development Plan
April- end June 2003:	Public Display of Draft Development Plan: receive submissions
Sept-November 2003:	Council adopts or amends Draft Plan.
December 2003 -	
January 2004:	Public Display
Jan-February 2004:	Manager's report on public display
Feb-March 2004:	Council considers Manager's report and adopt Plan.

Structure of Report:

The Council employed a fast-track SEA approach and involved two key stages:

1. Setting the strategic environmental aims
2. Appraising the main planning goals and strategic development principles against these environmental aims.

The SEA uses an impact matrix to describe the impacts of the planning goals and the strategic development principles on the environmental aims. The approach was similar to the Heritage Appraisal process proposed by the Heritage Council and carried out by Dun Laoghaire-Rathdown County Council for the Heritage Appraisal of the 1998 Development Plan.

SEA team profile: Internal team composed of two Executive Planners.

Changes requires to make the approach compliant with the SEA Directive

- Needs broader assessment criteria (extend to issues covered by the Directive);
- Preparation of a formal SEA report and subsequent consultation;
- Address environmental objectives existing in other plans and programmes;
- Consult specific environmental authorities;
- Generation of, and assessment of alternative goals and development principles; and
- Monitoring of the effects of the plan.

Lessons to be integrated into proposed methodology:

This case study was used to identify the challenges encountered by SEA practitioners who were new to this process and to therefore tailor the proposed methodology to address their concerns. It was also used to determine if there were any differences between SEAs carried out in rural (Cork) versus urban (Dun Laoghaire) Counties. Interviews with the SEA team and analysis of the section on the SEA in the Draft Development Plan revealed that the principal issues arising were as follows:

Summary of Analysis of Case studies

- Need to avoid local representations being received late in the process;
 - Need to have a procedure which can be fitted into existing timetable and can generate outputs at the same time as other outputs to ensure effective consultation opportunities.
-

B1.3 SEA OF CORK COUNTY DEVELOPMENT PLAN 2003-2009

Summary of Analysis of Case studies

Context:

The 2003-2009 County Development Plan is being prepared, in accordance with Part II of the Planning and Development Act 2000.

Timetable:

The Draft Plan was presented to the Council members in December 2001 and was subsequently amended and approved for public consultation in February 2002. The period for submissions ended in April 2002. On Monday 13th January 2003, Cork County Council formally made the County Development Plan 2003. The plan will come into operation on 10th February 2003 and will be in force until early in the year 2009.

Structure of Report:

An SEA was carried out behind the scenes of the main plan-preparation. The SEA of the draft Plan (February 2002) addressed the four main planning goals contained within the vision statement and the 33 strategic development principles under eight subject areas. The SEA was undertaken after these were formulated.

The SEA used impact matrices to describe the impacts of the planning goals on the environmental aims.

The SEA seems to have started after the Draft Plan was prepared and adopts the Heritage Appraisal methodology:

- Define scope and purpose of the SEA
- Setting agreed strategic environmental aims for the Development Plan
- Appraising the main planning goals and strategic development principles against these environmental aims

The SEA section in the Draft Development Plan (Chapter 11) identifies eight environmental aims, which are then used in an objective-led fashion to appraise the goals and principles.

The four main planning goals are appraised first in terms of positive/neutral/negative and indirect/direct. Subsequently the thirty-three strategic development principles are appraised against the environmental aims in similar matrices. There is no commentary.

SEA team profile: Internal team composed initially of a single member of staff and then added to by other members.

Changes requires to make the approach compliant with the SEA Directive

- Needs broader assessment criteria (extend to issues covered by the Directive);
- Preparation of a formal SEA report and subsequent consultation;
- Address environmental objectives existing in other plans and programmes;
- Consult specific environmental authorities;
- Generation of, and assessment of alternative goals and development principles; and
- Monitoring of the effects of the plan.

Summary of Analysis of Case studies

Lessons to be integrated into proposed methodology:

This case study was used to identify the challenges encountered by SEA practitioners who were new to this process and to therefore tailor the proposed methodology to address their concerns. It was also used to determine if there were any differences between SEAs carried out in rural (Cork) versus urban (Dun Laoghaire) Counties.

Interviews with personnel and analysis of the section on the SEA in the Draft Development Plan revealed that the principal issues arising were as follows:

- Need to avoid local representations being received late in the process;
 - Need to have a procedure which can be fitted into existing timetable and can generate outputs at the same time as other outputs to ensure effective consultation opportunities.
-

B1.4 DUBLIN DOCKLANDS AREA: STRATEGIC ENVIRONMENTAL ASSESSMENT OF THE DRAFT MASTER PLAN REVIEW 2003

Summary of Analysis of Case studies

Context:

The Master Plan for the Dublin Docklands Area outlines a strategy for the social economic and physical rejuvenation of the Dublin Docklands Area.

Under the *Dublin Docklands Development Authority Act 1997*, the Master Plan must be reviewed after 5 years.

Interviews with DDDA staff revealed that they were keen to use SEA as a tool that could be used to assess impacts at the Master Plan level. The SEA has been published alongside the Draft Master Plan.

EISs have been prepared for Section 25 Planning Schemes for Grand Canal Docks Area, Custom House Docks and the Docklands North Lotts area.

Timetable:

The SEA was undertaken during the review of the 1997 Master Plan in 2002-2003 and was hence integrated within the draft plan preparation process. The SEA was published in April 2003 alongside the Draft Master Plan Review.

Structure of Report:

Based upon the recommendation of the Department of the Environment and Local Government, the DDDA used the requirements of the SEA Directive to undertake their assessment. The report is therefore structured as follows:

NON TECHNICAL SUMMARY

1 INTRODUCTION

Description of the Masterplan Review and the SEA Directive

2 METHODOLOGY

Scoping

Baseline Study

Consideration of Alternatives

Environmental Assessment of Master Plan Review

3 CONSISTENCY WITH NATIONAL/ REGIONAL

LOCAL POLICY

Sustainable Development- A Strategy for

Ireland, 1997

National Climate Change Strategy, 2000

Strategic Planning Guidelines for the

Greater Dublin Area, 1999

Residential Density Guidelines for Planning

Summary of Analysis of Case studies

Authorities, 1999
A Platform for Change, Strategy 2000 to 2016
Retail Planning Guidelines for Planning
Authorities, 2000
Dublin City Development Plan, 1999
**4 CHARACTERISTICS OF THE EXISTING
ENVIRONMENT IN THE DOCKLANDS AREA**
Biodiversity/ Flora and Fauna
Population
Soil
Water
Air Quality
Climatic Factors
Noise
Material Assets/ Cultural Heritage
5 CONSIDERATION OF ALTERNATIVES
6 SUSTAINABILITY CRITERIA
7 ASSESSMENT OF MASTER PLAN REVIEW
Compatibility of Strategic Objectives
Compatibility of Strategic Objectives with
Sustainability Criteria
Compatibility of Master Plan Review with
Sustainability Criteria
8 MITIGATION
9 MONITORING
10 OVERALL FINDINGS FROM THE ASSESSMENT

SEA team profile: Carried out by an external consultant in consultation with the DDDA.

Changes requires to make the approach compliant with the SEA Directive

The SEA was carried out according to the requirements of the SEA Directive and therefore there are no significant changes required to make it fully compliant.

Lessons to be integrated into proposed methodology:

This case study was used to identify the challenges encountered by SEA practitioners who were new to this process and to therefore tailor the proposed methodology to address their concerns. It was also used to monitor the first SEA prepared in Ireland which follows the requirements of the Directive. As a result, the lessons learned are particularly important:

Interviews with personnel and analysis of the SEA revealed that the principal issues arising were as follows:

- The environmental topics set by the Directive (such as biodiversity, population, human health, fauna, flora, soil, etc) did not all carry the same level of relevance Dublin Docklands Master Plan itself. The methodology should incorporate a recommendation for the SEA report to highlight which topics are more relevant than others. This is, essentially, the motive behind recommending a more formal scoping stage in the SEA process. Practitioners were able to explain why certain issues such as human health, for example, may be more appropriately considered as part of the other indicators. The other aspects would also have to be addressed but not in as much detail as the more relevant aspects. For example, it biodiversity was not seen to be a key issue due to the urban character of the area and absence of sensitive or ecologically-rich areas; but the practitioner must check that this is so, before such a claim is issued in the SEA scoping report.
- Identifying up the objectives against which the DDDA policies will be assessed has been noted as giving rise to difficulty particularly since many are conceptual and not relevant to the project. This is a problem similar to the environmental topics to be considered and it may be solved by emphasizing that the SEA process needs to be tailored to the task in hand and that national sustainability objectives may not be

Summary of Analysis of Case studies

suitied to the level of detail in the P/P.

Recommendations for monitoring were made in the report. This is an area where there is little experience. There are few networks of monitoring at the scale of the plan and there is no capacity to actively monitor environmental parameters such as landscape, cultural heritage etc. The current lack of any formal system to post-audit development plans and the absence of any network in place makes this requirement particularly difficult to meet.

B1.5 INDICATIVE FOREST STRATEGIES (COUNTIES WICKLOW AND MAYO)

Summary of Analysis of Case studies

Context:

The Forest Service within the Department of Communications, Marine and Natural Resources are developing Indicative Forest Strategies for each County in Ireland, used for forest planning purposes and will aim to guide the location and character of future afforestation in a manner consistent with the principles of sustainable forest management. They have resulted from a recognised need to strategically meet the demands for forest resources in a sustainable manner. Over the next two years, a total of 29 Indicative Forest Strategies will be developed on a county by county basis in association with the Local Authorities. It is envisaged that all Indicative Forest Strategies will be completed by end 2005. They do not currently undergo a formal strategic environment assessment.

Similar regional-level forest plans have also been prepared in the UK under the Sustainable Development Strategy for the UK. The IFSs prepared under the UK strategy address its Strategic themes at a regional level. Similarly, the Irish IFSs have been prepared under the Government's Strategic Plan for Future Forestry "*Growing for the Future*" (1996) which is currently due for review.

This reserach project followed the preparation of the IFS for County Mayo.

Timetable:

Each Strategy comprises the following stages:

1. Inception meeting with Local Authorities
2. Discussion Paper and first phase public consultation (written procedure).
3. Receive submissions and revise into draft IFS
4. Agree draft IFS with County Council and submit to all parties
5. Hold public meeting (second phase public consultation)
6. Receive comments and revise draft IFS to prepare final IFS.
7. Agree final IFS with County Council and publish.

The County Mayo IFS Discussion Paper was published in August 2002 and circulated to stakeholders. This was accompanied by a call for submissions placed in local newspapers in the week ending 23rd August 2002. The responses received as a result of the consultation process have helped in drawing up the draft version of the IFS. This draft IFS was sent to Mayo Co. Council for comment and it will form the basis of the second phase of public consultation due to start on 21st July 2003. The aim is to adopt the final IFS in September 2003.

In June 2003, the procedural steps as set out above were revised and several amendments were made to make the process more efficient. For example, it was decided that the main focus for consultation would be the draft IFS, as opposed to the issuing of a 'Discussion Paper'.

Structure of Report:

The IFS is location-based and its overall purpose is to "*identify the potential that future afforestation can make toward s the establishment of high quality forests serving a variety of purposes including timber protection, forest industry development, off-farm incomes, tourism, amenity and enhancement of the environment*". It will set out preferred areas for afforestation, areas where consultation requirements will be specified and will identify sensitive areas. The Report therefore has the following structure in its draft and final versions:

Summary of Analysis of Case studies

- Background (including categories of areas for planting);
- Forestry in County Mayo;
- Supporting the Local Economy (inc. Strategic Actions);
- Conserve and enhance the Environment (nature conservation, landscape, water quality, native woodlands, archaeology, (inc. Strategic Actions);
- Enhance the quality of life (inc. Strategic Actions);
- Strategic Map
- Implementing the Strategy
- Details of consultation protocol for afforestation proposals.

Team profile:

Managed by Forest Service personnel in partnership with the Local Authorities. This allows a standard format of IFS to be prepared, to allow the IFS to be locally relevant and to allow effective consultation of community groups and the stakeholder network.

Changes requires to make the approach compliant with the SEA Directive

This case study was chosen as it does not currently undergo a strict SEA and it would be useful to see how the SEA requirements could be integrated into the present procedures. Analysis of the reports and the procedures used to prepare them has revealed that the following steps would be need to fulfil the requirements of the SEA Directive:

- Identification of alternative strategic actions and alternative strategic zonings;
- Systematic analysis of consistency with other plans and guidelines
- Develop SEA objectives which reflect the aim of the IFS
- Publish Scoping Report alongside Discussion Paper
- Assess impacts of strategic actions on SEA objectives and baseline data
- Publish SEA Report alongside draft IFS and distribute to stakeholders
- Integrate comments into Final IFS and publish SEA statement.
- Propose monitoring (e.g. of afforestation applications and consultation procedures)

Lessons to be integrated into proposed methodology:

Integration into existing procedures

The stages that are documented above, which would make the IFS process compliant with the SEA Directive can all be integrated into the methodology. It is important to stress that the SEA methodology can be moulded and changed to the task in hand and that different P/P can have different emphases in the methodology.

In the case of the Forest Strategies, the SEA process should proceed when the Discussion Paper is developed. The SEA should be scoped by the preparation of the Issues paper and the scope refined during the consultation stage.

The actual impact assessment stage can commence when the draft plan has been started. Discrete steps with milestones will have to be set in order to prevent the SEA process being left behind. After the public meeting on the draft IFS, any submissions and observations which lead to material changes in the Strategy should themselves be subject to a streamlined SEA.

It would be the intention that the main effort would be require at the draft IFS stage. If SEA is working properly then it should be able to make the most significant mitigation measures at this stage of assessment.

Implementing National Strategies

Consistency with the National Strategy will also be an important part of the SEA process. The issues covered by the *National Strategy* include:

- Planting policy
- Amenity and Recreation
- Environment
- Forest Protection and Health

Summary of Analysis of Case studies

- Harvesting and Transport
- Sawmilling
- Quality and standards
- Research and development
- Education and Training

It would be expected that the regional IFSs would address these same factors. The National Strategy has not undergone an SEA and therefore it is important that the IFSs are able to identify where there may be significant environmental impacts of implementing the National Strategy.

SEA will be able to perform the following purpose with respect to IFSs:

- Identify which other plans and policies will interact with the IFS
 - Determine environmental objectives for the IFS;
 - Identify consistencies/inconsistencies between the objectives;
 - Provide a scope of environmental issues (and therefore scope of baseline information);
 - Support criteria for identification of areas for forestry (and for excluding forestry);
 - Identify key indicators to allow monitoring of the IFS; and
 - Provide explicit linkages to consent process for forestry applications.
-

B1.6 SEA OF SOMERSET WASTE LOCAL PLAN

Summary of Analysis of Case studies

Context:

In England and Wales, planning applications for development associated with the deposit, treatment, storage, processing and disposal of refuse or waste materials other than mineral waste, are decided by county planning authorities, non-metropolitan unitary authorities, or National Park authorities. These bodies require a development plan framework for deciding those applications. The Town and Country Planning Act 1991 therefore introduced a requirement for local plan coverage of development involving the depositing of refuse or waste materials (other than mineral waste). Local authorities may either prepare a separate Waste Local Plan, or combine it with their Minerals Local Plan.

The plans set out local authorities' detailed land use policies for the management and disposal of waste, within the broad strategic framework of the Structure Plan (which is comparable to the County Development Plan in Irish Counties). The UK regulations require authorities to draw up waste local plans that have regard to the national waste strategy. The waste local plan should address the need for sites and facilities in particular areas, suitable locations, and planning criteria likely to apply, including geological, hydrological, and other considerations (ODPM, 2000). The policies provide the framework for a move away from the current reliance on landfill towards more sustainable methods of waste management which recover value from waste: for example, recycling, composting or energy recovery.

Waste Local Plans and other types of development plans in the UK are required to demonstrate that their environmental impacts have been analysed and minimised before the plan can be adopted. Most County Councils have adopted a systematic type of SEA known as "environmental appraisal". Somerset County Council have used an approach based upon the SEA Directive's requirements but inevitably draws upon the methodology used in environmental appraisal. Environmental appraisal has evolved from focusing upon environmental impacts alone, to extending its scope to include sustainability issues to ensure that the plan is actively moving toward sustainability. Environmental appraisal has effectively been superseded by sustainability appraisal.

Timetable:

Summary of Analysis of Case studies

Approximately six months in duration.

Structure of Report:

The SEA of the WLP is a hybrid of the SEA Directive and sustainability appraisal and primarily uses objective-led assessment with elements of baseline-led assessment to ensure protection of the most sensitive parts of the environment.

The methodology used has been designed to fulfil the requirements of the SEA Directive but has been extended to more specifically consider sustainability issues.

The methodology is divided into four stages:

- Examination of the baseline environment and policy framework in order to select the important assessment criteria –
 - reflects the hybrid baseline/objective led approach
 - looks at range of European, national, regional and local level objectives and draws up list of 26 objectives, indicators and targets (quite a long list)
- Scoping of the plan against relevant government guidance-
 - Output is a range of recommended changes to the WLP to ensure that it meets all Government, regional and local guidance.
- Consistency matrices to ensure that all parts of the plan are internally compatible; and
 - Documents outputs only of comparing policies against each other.
- Policy assessment against the assessment criteria
 - Main part of the SEA
 - Must identify interactions of waste management methods e.g. recycling upon need for other facilities.
 - Uses tick box approach. NB not all of the 26 objectives are applicable
- Analysis
 - Produces recommendations which apply to the plan as it is now
 - Recommendations for the plan as to how it should be reviewed and the kinds of issues that it should address.

Baseline environment analysed in a table showing the 26 objectives, and for each objective,

- existing problems,
- actual baseline levels,
- evolution without the plan,
- Relevant environmental protection/sustainability objective
- WLP's ability to influence
- Indicator chosen
- Target chosen

Note: In July 2003, the Revised Deposit Version of the Plan was published which included an updated SEA Report. The SEA methodology was not adjusted in anyway and was just re-applied to the revised version. This approach allowed the SEA of the Revised Draft to be completed in approximately 4 person days.

Team profile:

The SEA was managed and the report prepared by a single Planning Officer with knowledge of SEA, and assistance from a member of the waste planning team.

Changes requires to make the approach compliant with the SEA Directive

Summary of Analysis of Case studies

Since this SEA followed the requirements of the Directive it did not require any significant changes to its approach.

Lessons to be integrated into proposed methodology:

This case study was chosen to investigate how waste issues can be addressed in an SEA. It was also used to show how a developed SEA system operates in practice and how this could be applied in Ireland.

Key aspects of the approach which have been transferred to the proposed methodology are as follows:

- Identification of assessment criteria by examining the baseline environment and objectives in the plan;
 - Consistency matrices to ensure that all parts of the plan are internally compatible
 - Identification interactions of waste management methods e.g. recycling upon need for other facilities.
 - Mitigation measures in the form of recommendations which apply to the plan as it is now and recommendations for the plan as to how it should be reviewed and the kinds of issues that it should address.
-

Annex C

Documents consulted in the Literature Review

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Annex D

SEA Report Checklist

D SEA REPORT CHECKLIST

D1.1 INTRODUCTION

This checklist is designed as a method for checking the adequacy of SEA Reports in terms of compliance with the requirements of the SEA Directive and generally accepted good practice in SEA. It is based upon the European Commission's EIA Review Checklist, prepared in 1997 and amended in 2001 by Environmental Resources Management. This original Review Package was intended to *"help developers and their consultants prepare better quality Environmental Impact Statements and competent authorities and other interested parties to review them more effectively, so that the best possible information is made available for decision making."* (ERM, 2001).

The EIA Review Checklist has been changed so that the criteria are applicable to SEA Reports and the requirements of the SEA Directive. The results are presented in the SEA Report Checklist provided in this Annex. It is important to note that the revised checklist is no longer described as a "review checklist". This was decided as a result of discussions with the Steering Group who considered that SEA practitioners could also use the checklist *during* the SEA process to ensure that they have covered all of the necessary steps to produce the necessary information.

D1.2 DEFINING WHAT IS AN "ADEQUATE" SEA REPORT

The original EIA Review Checklist states that by adequacy is meant, the completeness and suitability of the information from a content and decision-making viewpoint. The checklist should help reviewers decide whether the information meets the two main objectives of:

- providing decision-makers with all the necessary environmental information for their decision;
- communicating effectively with consultees and the general public so that they can comment in a useful manner on the project and its environmental impacts.

It is important to appreciate that the checklist cannot verify whether the information meets national legal requirements. This can only be done by reference to national legislation which is not yet in place in Ireland.

It is also not able to verify the technical or scientific quality of the information or the adequacy of the environmental studies that have gone into its preparation. If reviewers are concerned about the technical

adequacy of the studies or the information, advice should be sought from relevant experts.

The SEA Report Checklist is designed to be used in one or more of three ways.

1. To assess the progress of the SEA process and to ensure that the process is fulfilling the requirements of the SEA Directive prior to the publication of the SEA report. The Checklist can be used as an internal check that the SEA is comprehensive and that it will serve its desired purpose. The checklist can be used by the SEA team on an ongoing basis.
2. To assess the adequacy of an SEA Report after it has been published. In this case the output of the checklist is an assessment that the information is either adequate or inadequate. If the information is inadequate the checklist prompts the user to identify what further information is required.
3. To assess the quality of the SEA report generally for either research or monitoring purposes. So for example the checklist can be used to investigate which parts of the information required by the Directive are usually best or worst in quality across a number of SEA Reports, or to investigate the overall quality of SEA Reports submitted for different types of projects, or to investigate trends in quality of SEA Reports over time. This is deemed as being quality review over a longer period of time (adapted from ERM, 2001).

D1.3 THE QUALITIES OF A GOOD SEA REPORT

It is important, to emphasise that the main aim of the SEA report is to provide good information for two audiences – authorities responsible for the preparation of the SEA Report and the public potentially affected by a P/P. The most important thing is therefore, that it should communicate effectively with these audiences. The summary below distils from the checklist the main characteristics which a good SEA Report should have to meet this objective (adapted from ERM, 2001).

- A clear structure with a logical sequence, for example, describing existing baseline conditions, predicted impacts (nature, extent and magnitude), scope for mitigation, agreed mitigation measures, commitments to monitoring, significance of unavoidable/residual impacts for each environmental topic.
- A table of contents at the beginning of the document.
- A clear description of the P/P, its objectives and the measures within it.

- A description of the P/P preparation and approval process and how SEA fits into this.
- A full description of the proposed implementation of the P/P.
- Reads either as a single document with appropriate cross-referencing, or as a clearly identifiable section within the draft P/P.
- Is concise, comprehensive and objective.
- Is written in an impartial manner without bias.
- Makes effective use of diagrams, illustrations, photographs and other graphics to support the text.
- Uses consistent terminology with a glossary.
- References all information sources used.
- Has a clear explanation of complex issues.
- Contains a good description of the methods used for the studies of each environmental topic.
- Covers each environmental topic in a way which is proportionate to its importance and at a level of detail that corresponds to the P/P.
- Provides evidence of good consultations.
- Includes a clear discussion of alternatives.
- Makes a commitment to mitigation (with a programme) and to monitoring.
- Has a Non-Technical Summary which does not contain technical jargon.

D1.4 STRUCTURE OF THE CHECKLIST

The checklist provides quite a lengthy list of questions to be asked about the SEA Report.

It is divided into eight Sections:

1. Description of P/P, potentially affected environment and baseline conditions.
2. Consideration of Alternatives.
3. Description of environment likely to be affected by the P/P.
4. Description of the likely significant effects of the P/P.
5. Description of mitigation.
6. Description of monitoring.
7. Non-Technical Summary.

8. Quality of presentation.

Within each section there are numbered Questions. For some questions notes are provided to assist the reviewer.

D1.5 INSTRUCTIONS FOR CHECKING AN SEA REPORT

Step 1

Quickly read the SEA Report to understand how it is organised and where to find things within it.

Step 2

Decide for each Question, whether the question is relevant to the specific P/P. If so enter "Yes" in Column 2. When determining if the Question is relevant, the reviewer should remember that the Checklist is based upon the SEA Directive and that regarding certain issues as irrelevant should be based upon a robust argument.

At the end of each section of the checklist consider whether there are any special features of the project that mean that types of information not identified in the Checklist could be relevant and add these to the Checklist in the spaces provided ("Other questions on.....").

Step 3

If a Question is identified as relevant, review the EIS in more detail and decide whether the particular information identified in the question is provided and is sufficient for decision-making. If it is complete enter "Yes" in Column 3. If it is not enter "No".

In considering whether the information is of sufficient quality the reviewer should consider whether there are any omissions in the information and if there are whether these omissions are vital to the P/P process. If they are not then it may be unnecessary to request further information. This will avoid unnecessary delay to the process. Factors to consider will include:

- The legal provisions applying and the factors which the authority preparing the P/P is required to take into account at this stage in the P/P -preparation process.
- Whether there are further requirements for environmental assessment at later stages at which relevant environmental issues will be considered in more detail, for example, project-EIA.

- The scale and complexity of the P/P and the sensitivity of the receiving environment.
- Whether the environmental issues raised by the P/P are high profile.
- The views of the public and consultees about the P/P and the degree of controversy.

Note that the Questions marked with an asterix denote where specialist advice may be required to make an accurate judgement.

Step 4

If the answer to a Question is “No” consider what further information is required and note this in Column 4 as well as any comments that will help to justify the judgements. The reviewer may also wish to make any suggestions on where or how the information could be obtained.

Step 5

Once Columns 1-4 have been completed, the final table summarises the adequacy of the SEA Report. Although the original EC EIA Review Checklist allows the EIS to be graded A-E to reflect its quality, this approach is based upon an assumption that the reviewer wishes to compare several EISs. It is recommended that the grading of SEA Reports is avoided during the first years of implementation of the Directive and that this is gradually introduced as more SEA Reports become available. Further information on grading is provided in the EC EIA Review Checklist (ERM, 2001).

SEA Report Checklist

- denotes where technical expertise may be required to make a judgement

SECTION 1 DESCRIPTION OF THE P/P, POTENTIALLY AFFECTED ENVIRONMENT AND BASELINE CONDITIONS				
No.	Question	Relevant?	Adequately Addressed?	Supporting comments and description of need for further information
The Objectives and Characteristics of the P/P and the SEA Report				
1.1	Is the need for and objectives of the P/P explained?			
1.2	Is the position of the P/P in the hierarchy of plans, programme and projects explained?			
1.3	Is the type, purpose and lifetime of the P/P and the timing of the SEA in the P/P preparation process clearly explained?			
1.4	Are all additional requirements for environmental assessment (e.g. project-EIA) explained?			
1.5	Are relationships with other P/P identified?			
1.6	Are the main environmental objectives clearly stated in the SEA Report?			
1.7	Are the main measures within the P/P depicted in appropriate graphical ways (e.g. zoning maps, GANTT charts for timescale, sensitivity maps etc)?			
1.8	Are international or national environmental protection objectives (including objectives established in related P/Ps) taken into account?			
The affected environment				
1.9	Is the local environment likely to be affected by the P/P identified and described (by narrative description and/or by a scaled map)?			

SECTION 1 DESCRIPTION OF THE P/P, POTENTIALLY AFFECTED ENVIRONMENT AND BASELINE CONDITIONS

No.	Question	Relevant?	Adequately Addressed?	Supporting comments and description of need for further information
1.10	<p>Are potentially affected areas outside the spatial coverage of the P/P described?</p> <p>(Areas may include neighbouring Counties, catchments, linkage to transport networks etc)</p>			
1.11	<p>Are relevant natural resources and environmental sensitivities described? Existing environmental problems and pressures on the environment should be described, including estimates of waste production, pollution levels and other development pressures on the environment.</p>			
1.12	<p>Are the baseline conditions described in a way that reflects availability of data and level of detail of the P/P?</p>			
1.13	<p>Are the baseline conditions linked to environmental objectives, indicators and targets and to proposals for mitigation and monitoring?</p>			
1.14	<p>Are the outcomes which result of implementing the P/P described?</p>			
1.15	<p>For urban or similar development projects, are numbers of and characteristics of new populations of communities described?</p>			
1.16	<p>For P/P involving the potential displacement of people or businesses, are the numbers and other characteristics of those displaced described?</p>			
1.17	<p>For new transport P/P or other P/P generating substantial traffic flows, is the type, volume, temporal pattern and geographical distribution of new traffic generated or diverted as a consequence of the Project described?</p>			
1.18	<p>Is there description of employment created or lost as a result of the P/P?</p>			
1.19	<p>Are the needs for housing and extra services discussed? (relevant for P/P which may influence population movements)</p>			

SECTION 1 DESCRIPTION OF THE P/P, POTENTIALLY AFFECTED ENVIRONMENT AND BASELINE CONDITIONS

No.	Question	Relevant?	Adequately Addressed?	Supporting comments and description of need for further information
Wastes				
1.20	Are the types and quantities of waste potentially generated by the P/P identified? (including construction or demolition wastes, surplus spoil, process wastes, by-products, surplus or reject products, hazardous wastes, household or commercial wastes, agricultural or forestry wastes, site clean-up wastes, mining wastes, decommissioning wastes)			
1.21	Are the options for collecting, storing, treating, transporting and finally disposing of these wastes described?			
1.22	Is the potential for resource recovery from wastes and residues discussed? (including re-use, recycling or energy recovery from solid waste and liquid effluents)			
1.23	Are the methods for estimating the quantities and composition of all residues and emissions identified and any difficulties discussed?			
1.24	Is the uncertainty attached to estimates of residues and emissions discussed?			
Other Questions on Description of the Project				

SECTION 2 CONSIDERATION OF ALTERNATIVES

No.	Review Question	Relevant?	Adequately Addressed?	Supporting comments and description of need for further information
2.1	Is the process by which the P/P was developed described, and are alternatives considered during this process?			
2.2	Is the baseline situation or the do-nothing or do-minimum scenario described as a benchmark against which other alternatives can be compared?			
2.3	Are the alternatives realistic and genuine?			
2.4	Are the main environmental effects of the alternatives compared with those of the do-nothing or do-minimum scenario?			
2.5	Are alternatives compared using environmental criteria?			
Other Questions on Consideration of Alternatives				

SECTION 3 DESCRIPTION OF ENVIRONMENT LIKELY TO BE AFFECTED BY THE P/P

No.	Question	Relevant?	Adequately Addressed?	Supporting comments and description of need for further information
Aspects of the Environment				
3.1	Is the baseline environment that may be affected by the P/P and the surrounding area described?			
3.2	Are the key biodiversity issues of the area which may be affected by the P/P and the surrounding area described and illustrated on appropriate maps, including any designated or protected species, sites or areas?			
3.3	If relevant to the nature of the P/P, are the topography, geology and soils of the land described?			
3.4	Are demographic, social and socio-economic conditions (e.g. employment) in the area described?			
3.5	If relevant to the nature of the P/P, is the water environment of the area described? (including running and static surface waters, groundwater, estuaries, coastal waters and the sea and including run off and drainage. NB not relevant if water environment will not be affected by the Project)			
3.6	If relevant to the nature of the P/P, are the water quality and use of any water resources that may be affected by the Project described? (including use for water supply, fisheries, angling, bathing, amenity, navigation, effluent disposal)			
3.7	If relevant to the nature of the P/P, are local, national or global climate and air quality described?			
3.8	If relevant to the nature of the P/P, is the existing noise climate described? (NB not relevant if acoustic environment will not be affected by the Project)			
3.9	If relevant to the nature of the P/P, is the existing situation regarding light, heat and electromagnetic radiation described? (NB not relevant if these characteristics of the environment will not be affected by the Project)			
3.10	Are any material assets in the area that may be affected by the P/P described? (including buildings, other structures, mineral resources, water resources)			

SECTION 3 DESCRIPTION OF ENVIRONMENT LIKELY TO BE AFFECTED BY THE P/P

No.	Question	Relevant?	Adequately Addressed?	Supporting comments and description of need for further information
3.11	Are any locations or features of archaeological, historic, architectural or other community or cultural importance in the area that may be affected by the P/P described, including any designated or protected sites?			
3.12	Is the landscape of the area that may be affected by the Project described, including any designated or protected landscapes and any important views or viewpoints?			
3.13	Are any future changes in any of the above aspects of the environment, that may occur in the absence of the P/P, described? (the so-called do-nothing scenario)			
Baseline Data Collection Methods				
3.14	Has the "receiving environment" been defined widely enough to include all the area likely to be significantly affected by the P/P?			
3.15	Have relevant national and local agencies been contacted to collect information on the baseline environment?			
3.16	Have sources of data and information on the existing environment been adequately referenced in the SEA Report?			
3.17	Does the level of detail of the baseline data reflect the level of detail in the P/P?			
3.18	Are any important gaps in the data on the existing environment identified, and the means used to deal with these gaps during the SEA process explained?*			
3.19	If data collection would be required to adequately characterise the baseline environment but it has not been practicable for any reason, are the reasons explained and proposals set out for the data collection to be undertaken at a later stage?			

SECTION 3 DESCRIPTION OF ENVIRONMENT LIKELY TO BE AFFECTED BY THE P/P

No.	Question	Relevant?	Adequately Addressed?	Supporting comments and description of need for further information
Other Questions on the Description of the Environment				

SECTION 4 DESCRIPTION OF THE LIKELY SIGNIFICANT EFFECTS OF THE P/P

No.	Question	Relevant?	Adequately Addressed?	Supporting comments and description of need for further information
Scoping of Effects				
4.1	Is the process by which the scope of the P/P and the SEA Report was defined described?			
4.2	Is it evident that a systematic approach to scoping was adopted?			
4.3	Is it evident that full consultation was carried out during scoping?			
4.4	Are the comments and views of consultees presented?			
Prediction of Direct Effects				
4.5	Are direct, primary effects on land uses, people and property described, where relevant?*			
4.6	Are direct, primary effects on geological features and characteristics of soils described where relevant?*			
4.7	Are direct, primary effects on fauna and flora and habitats described where relevant?*			
4.8	Are direct, primary effects on the hydrology and water quality of water features described where relevant?*			
4.9	Are direct, primary effects on uses of the water environment described where relevant?*			
4.10	Are direct, primary effects on air quality and climate described where relevant?*			
4.11	Are direct, primary effects on the acoustic environment (noise or vibration) described where relevant?*			
4.12	Are direct, primary effects on heat, light or electromagnetic radiation described where relevant and where appropriate quantified?*			
4.13	Are direct, primary effects on material assets and depletion of non-renewable natural resources (e.g. fossil fuels, minerals) described?*			
4.14	Are direct, primary effects on locations or features of cultural importance described where relevant?*			

SECTION 4 DESCRIPTION OF THE LIKELY SIGNIFICANT EFFECTS OF THE P/P

No.	Question	Relevant?	Adequately Addressed?	Supporting comments and description of need for further information
4.15	Are direct, primary effects on the quality of the landscape and on views and viewpoints described where relevant and where appropriate illustrated?*			
4.16	Are direct, primary effects on demography, social and socio-economic condition in the area described where relevant and where appropriate quantified?*			
	Are primary and secondary effects on human health and welfare described and where appropriate quantified? (eg. health effects caused by release of toxic substances to the environment, health risks arising from major hazards associated with the Project, effects caused by changes in disease vectors caused by the project, changes in living conditions, effects on vulnerable groups)*			
	Are impacts on issues such as biodiversity, global climate change and sustainable development discussed where appropriate?*			
Prediction of Impacts				
4.17	Are secondary effects on any of the above aspects of the environment caused by primary effects on other aspects described where relevant? (eg. effects on biodiversity, fauna, flora or habitats caused by soil, air or water pollution or noise; effects on uses of water caused by changes in hydrology or water quality; effects on archaeological remains caused by desiccation of soils)			
4.18	Are temporary, short-term effects caused only during short-term activities under the P/P described?			
4.19	Are permanent effects described?			
4.20	Are long-term effects on the environment caused over the lifetime of P/P?			
4.21	Are indirect effects on the environment caused by consequential actions described? (consequential actions are other P/P eg. to provide new goods or services needed for the P/P to house new populations or businesses stimulated by the P/P)			
4.22	Are cumulative effects on the environment described? (For further guidance on assessment of cumulative impacts see http://europa.eu.int/comm/environment/eia/eia-support)			

SECTION 4 DESCRIPTION OF THE LIKELY SIGNIFICANT EFFECTS OF THE P/P

No.	Question	Relevant?	Adequately Addressed?	Supporting comments and description of need for further information
4.23	Are the geographic extent, duration, frequency, reversibility and probability of occurrence of each effect identified as appropriate?			
4.24	Are the methods used to predict effects described, and are the reasons for their choice, any difficulties encountered and uncertainties in the results discussed?			
4.25	Where there is uncertainty about the precise effect of the P/P on the environment are worst-case predictions described?			
4.26	Are impacts described on the basis that all proposed mitigation has been implemented i.e. are residual impacts described?			
4.27	Is the level of treatment of each effect appropriate to its relevance to the measures within the P/P? Does the discussion focus on the key issues and avoid irrelevant or unnecessary information?			
4.28	Is appropriate emphasis given to the most severe, adverse effects of the P/P with lesser emphasis given to less significant effects			
Evaluation of the Significance of Impacts				
4.29	Is the significance or importance of each predicted effect clearly explained by reference to environmental objectives, standards, and the baseline data?			
4.30	Where effects are evaluated against legal standards or requirements, are appropriate local, national or international standards used and relevant guidance followed?			
4.31	Are positive effects on the environment described as well as negative effects?			
Other Questions relevant to Description of Effects				

SECTION 5 DESCRIPTION OF MITIGATION

No.	Question	Relevant?	Adequately Addressed?	Supporting comments and description of need for further information
5.1	Where there are significant adverse effects on any aspect of the environment is the potential for mitigation of these effects discussed?			
5.2	Are the measures which are proposed to implement to mitigate effects clearly described, and is their effect on the magnitude and significance of impacts clearly explained?			
5.3	If the effect of mitigation measures on the magnitude and significance of impacts is uncertain is this explained?			
5.4	Is it clear whether there are binding commitment to implement the proposed mitigation or that the mitigation measures are just suggestions or recommendations?			
5.5	Are the authority's reasons for choosing the proposed mitigation explained?			
5.6	Are responsibilities for implementation of mitigation including funding clearly defined?			
5.7	Where mitigation of significant adverse effects is not practicable or the authority has chosen not to propose any mitigation are the reasons for this clearly explained?			
5.8	Is it evident that the SEA Team considered the full range of possible approaches to mitigation including measures to reduce or avoid impacts by modifying policies in the P/P, adopting alternative strategies, locations, , , , changes to implementation plans and , measures to repair or remedy impacts and measures to compensate impacts?			
5.9	Are arrangements proposed to monitor and manage residual impacts?			
5.10	Are any negative effects of the proposed mitigation described?			

SECTION 5 DESCRIPTION OF MITIGATION

No.	Question	Relevant?	Adequately Addressed?	Supporting comments and description of need for further information
Other Questions on Mitigation				

SECTION 6 DESCRIPTION OF MONITORING

No.	Question	Relevant?	Adequately Addressed?	Supporting comments and description of need for further information
6.1	Where there are significant adverse effects on any aspect of the environment are there clear commitments to monitor the implementation of the P/P?			
6.2	Are the Authority's reasons for choosing the proposed monitoring programme explained?			
6.3	Are responsibilities for implementation of the monitoring programme clearly defined?			
6.4	Where monitoring is not practicable or the authority has chosen not to propose any monitoring are the reasons for this clearly explained?			
6.5	Is reference made to the use of existing monitoring networks?			
6.6	Is the use of monitoring data as a means of verifying the predictions made in the SEA process discussed?			
Other Questions on Mitigation				

SECTION 7 NON TECHNICAL SUMMARY

No.	Question	Relevant?	Adequately Addressed?	Supporting comments and description of need for further information
7.1	Does the SEA Report include a Non-Technical Summary?			
7.2	Does the Summary provide a concise but comprehensive description of the P/P, its environment, the effects of the P/P on the environment and the proposed mitigation?			
7.3	Does the Summary highlight any significant uncertainties about the P/P and its environmental effects?			
7.4	Does the Summary explain the P/P -preparation process and the role of SEA in this process?			
7.5	Does the Summary provide an overview of the approach to the SEA?			
7.6	Is the Summary written in non-technical language, avoiding technical terms, detailed data and scientific discussion?			
7.7	Would it be comprehensible to a lay member of the public?			
Other Questions on Non Technical Summary				

SECTION 8 QUALITY OF PRESENTATION

No.	Question	Relevant?	Adequately Addressed?	Supporting comments and description of need for further information
8.1	Is the SEA report available in one or more clearly defined documents?			
8.2	Is the document(s) logically organised and clearly structured so that the reader can locate information easily?			
8.3	Is there a table of contents at the beginning of the document(s)?			
8.4	Is there a clear description of the SEA process which has been followed?			
8.5	Is the presentation comprehensive but concise, avoiding irrelevant data and information?			
8.6	Does the presentation make effective use of tables, figures, maps, photographs and other graphics?			
8.7	Does the presentation make effective use of annexes or appendices to present detailed data not essential to understanding the main text?			
8.8	Are all analyses and conclusions adequately supported with data and evidence?			
8.9	Are all sources of data properly referenced?			
8.10	Is consistent terminology used throughout the document(s)?			
8.11	Does it read as a single document with cross-referencing between sections and between the SEA Report and the P/P, used to help the reader navigate through the document(s)?			
8.12	Is the presentation demonstrably fair and, as far as possible, impartial and objective?			
8.13	Is an "SEA Statement" to be published after the adoption of the P/P, describing how the P/P has taken the findings of the SEA into account?			

SECTION 8 QUALITY OF PRESENTATION

No.	Question	Relevant?	Adequately Addressed?	Supporting comments and description of need for further information
Other Questions on Quality of Presentation				

OVERALL APPRAISAL OF THE SEA REPORT

If the reviewer wishes to use the Checklist to make an overall appraisal of the quality of SEA Report, this can be done using the table below.

No.	Topic	Adequately Addressed?	Comment and any requirements for further information
1	DESCRIPTION OF THE P/P, POTENTIALLY AFFECTED ENVIRONMENT AND BASELINE CONDITIONS		
2	CONSIDERATION OF ALTERNATIVES		
3	DESCRIPTION OF ENVIRONMENT LIKELY TO BE AFFECTED BY THE P/P		
4	DESCRIPTION OF THE LIKELY SIGNIFICANT EFFECTS OF THE P/P		
5	DESCRIPTION OF MITIGATION		
6	DESCRIPTION OF MONITORING		
7	NON TECHNICAL SUMMARY		
8	QUALITY OF PRESENTATION		

Overall Assessment:

Comment:

Annex E

Compatibility Study of the
Water Framework and the
Strategic Environmental
Assessment Directives

E COMPATIBILITY STUDY OF THE WATER FRAMEWORK AND THE STRATEGIC ENVIRONMENTAL ASSESSMENT DIRECTIVES

E1.1 INTRODUCTION

This annex provides a brief analysis of the relationship between the requirements of the SEA Directive and the Water Framework Directive. The function of this analysis is to demonstrate how the SEA Directive overlaps with other environmental protection instruments and to highlight the issues that will arise as a result of the overlap. Efficient implementation of the SEA Directive will be facilitated by reducing the duplication of the assessment process (as required by other instruments) and ensuring that SEA is integrated into existing procedures.

E1.2 OVERVIEW OF THE WATER FRAMEWORK DIRECTIVE

The Directive 2000/60/EC of the European Parliament and of the Council, 23rd October 2000, establishing a “*framework for community action in the field of water policy*” promotes an “*integrated*” approach to the protection of inland surface waters, transitional waters, coastal waters and groundwater within river basins (Council of the European Commission, 2000). The most significant requirement is the identification of River Basin Districts (RBD) and the preparation of River Basin Management Plans (RBMP), with the aim of achieving “*good ecological status*” (EC, 2003) River Basin Districts must be established in “*administrative areas*” and River Basin Management Plans must be prepared in relation to each District.

The Water Framework Directive adopts the “*river basin*” as the natural unit for water management. In Ireland, local authorities will have the primary role in promoting, establishing and implementing these projects. RBDs in Ireland will be determined by the natural grouping of hydrometric areas (river catchment areas) to water resource regions (EPA, 2000).

The River Basin Management Plan should include a “*Programme of Measures*” (under Article 11) to maintain and/or achieve at least good water status for all waters. In addition, the Water Framework Directive requires the identification of protected areas “*lying within each river basin district which have been designated as requiring special protection under specific community legislation for the protection of their surface water or groundwater or the conservation of habitats and species directly depending on water*”. In this way the Water Framework Directive overlaps with, and integrates the requirements under the EC Habitats Directive (92/43/EEC) and the EC Birds Directive (79/409/EEC). The protection of human health and flood protection is also a key objective of the Water Framework Directive.

E1.3 IMPLEMENTATION OF THE WATER FRAMEWORK DIRECTIVE IN IRELAND

To facilitate the implementation of the Water Framework Directive in Ireland, the Department of the Environment and Local Government is promoting the establishment by Local Authorities of River Basin Management Projects for River Basin Districts to cover all inland and coastal waters that will facilitate participation by all stakeholders, and lead to the identification and implementation of effective measures for improved water management.

The overall objective is to develop a River Basin Management System (“RBMS”), including a programme of measures designed to maintain and/or at least maintain a good water status for all waters and to facilitate the preparations of River Basin Management Plans. The Water Framework Directive requires that river basins that cross national frontiers must be assigned to an international River Basin District and the Member States involved must together ensure the co-ordination of measures for its implementation. In Ireland, this requires cooperation between authorities in Northern Ireland and the Republic, in relation to cross-border catchments, for example the Erne-Foyle-Swilly River Basin. The River Basin Districts (RBD) in the Republic of Ireland comprise:

- South-Eastern RBD;
- Shannon RBD;
- Western RBD;
- Eastern RBD; and
- South-Western RBD.

The Department of the Environment, Heritage and Local Government and the EPA have produced *Guidelines for the Establishment of River Basin Management Systems* (‘RBMS’), emerging from the Water Framework Directive. These guidelines are aimed at potential contractors who will prepare and implement the RBMSs. Since they provide clues as to how the Directive will be implemented via the RBMSs, they have been analysed as part of this study to identify if there are any overlaps with SEA.

E1.4 OVERVIEW OF RELATIONSHIP BETWEEN THE WATER FRAMEWORK DIRECTIVE AND THE SEA DIRECTIVE

The following points set out the areas of overlap between the two Directives at the most conceptual level, *i.e.* their purpose and application.

- Both Article 1 of the SEA Directive and Article 1 of the Water Framework Directive state that a key aim of the Directives is to provide for a high level of protection of the environment.
- Article 2 of the SEA Directive identifies a ‘relevant plan or programme’ as those which are “*subject to preparation and /or adoption by an authority at national, regional or local level or which are prepared by an authority for adoption, through legislative procedure by parliament or government*”. Since a formal requirement exists for the preparation of River Basin

Management Plans and a Programme of Measures by the relevant authorities, these Plans may require SEA under the Directive (EC, 2003) and may have to be examined on a case-by-case basis. According to draft technical guidance on the implementation of the SEA Directive, it is the test of whether the RBD and the Programme forms a framework for development consent.

- The SEA Directive states that where the obligation to carry out assessments of the effects on the environment arises simultaneously from the Water Framework Directive in order to avoid duplication of the assessment, Member States may provide for a single set of procedures, which meet the requirements of both Directives. (Council of the European Communities, 2001). Therefore an SEA methodology could be adapted to fit the requirements of both Directives.

Sections E5 and E6 identify the procedural and information requirements of the two Directives to highlight the key areas of overlap.

E1.5 PROCEDURAL REQUIREMENTS

E5.1 Requirement for Environmental Assessment

Article 5 of the SEA Directive requires an SEA to be carried out during the preparation of a plan or programme. Similarly the Water Framework Directive (Article 5) requires an “assessment of the characteristics of the River Basin District”, “review of the environmental impact of human activity” and “economic analysis of water use” as part of the preparation of the River Basin Management Plan. There is a clear overlap of requirements of the two Directives.

With regard to the responsibilities of the competent authority, it would be sensible to require the authority responsible for the implementation of the Water Framework Directive to also ensure that the requirements of the SEA Directive are met.

E 5.2 Requirement for Consultation

- Article 6 of the SEA Directive requires that the draft P/P and SEA report are available for public consultation prior to adoption of the P/P. Article 14 of the Water Framework Directive also implies a strong emphasis on consultation. The Water Framework Directive does, however, set precise timescales for consultation activities unlike the SEA Directive. Public consultation and participation in the process by stakeholders are considered key elements to facilitate the successful implementation of the River Basin Management projects (EPA, 2000).
- Both directives also call on Member States to identify the public who should be consulted based on those members who will be or are likely

to be affected by implementation of the plans or programmes. In addition public consultation and awareness and participation are considered key requirements for the successful implementation of the River Basin Management projects (EPA, 2000).

- Article 7 of the SEA Directive places an obligation for transboundary consultation to take place where significant impacts may occur outside of the Member State. The Water Framework Directive requires that “transboundary communications” are required where “international river basin districts” are identified (Article 3). Similarly, there are national guidelines that advise inter authority communication between local and regional authorities.
- Article 8 of the SEA Directive, which requires all decision-making to take account of comments made by consultees and stakeholders, is strongly followed in the Water Framework Directive.
- Article 9 of the SEA Directive (“publishing information on the decision”) corresponds with Article 14 of the Water Framework Directive. However there is a stronger emphasis on providing for future review of RBMSs and to undertake future consultation. This requirement may be capable of being integrated into the monitoring requirements of the SEA Directive during its implementation in each Member State.

E5.3 Monitoring of impacts

- Article 10 of the SEA Directive places an obligation on Member States to monitor “significant environmental effects” and allows for existing monitoring arrangements to be used if appropriate. The Water Framework Directive places a greater emphasis on monitoring throughout its requirements. Article 11 of the Water Framework Directive requires competent authorities to use monitoring information (from determination of status of water bodies) in developing an integrated programme of measures to meet environmental objectives.
- The Water Framework Directive also requires that technical specifications and standardised methods for analysis and monitoring of water status shall be laid down in accordance with Article 21. The national guidelines also make provisions for the use of existing monitoring regimes (EPA, 2000). The SEA Directive makes similar statements with reference to the use of existing monitoring networks.

E5.4 Environmental standards, legislation and objectives.

Article 11 of the SEA Directive requires that other community legislation be taken into account within the assessment process. The Water Framework Directive is subject to, and makes reference to EU law and national legislation.

Therefore both directives require other environmental protection objectives, standards and targets to be integrated into the assessment process.

E5.5 Information to be contained in the Assessment Report

Annex I of the SEA Directive corresponds largely with Annex II and III of the Water Framework Directive. These Annexes detail the information that should be included in the reports that are produced under the Directive and show that there are clearly different requirements that will have to be resolved.

At first glance, there are a number of obvious differences between the requirements stated in Annex I of the SEA Directive and Annexes II and III of the Water Framework Directive. For example, the Water Framework Directive requires a detailed “economic analysis” to be undertaken as part of the assessment process and the results need to be documented in the Plan. Other additional requirements of the Water Framework Directive mainly include a more detailed analysis of the physical and chemical factors that determine the characteristics of the lakes and hence the biological population structure and composition.

The SEA Directive focuses more on material assets, for example, impacts on culture, archaeology, architecture and heritage while the Water Framework Directive concentrates more on the physio-chemical and biological conditions. Both directives require information on effects on human health to be included.

E1.6 REQUIREMENTS OF ANNEX I OF THE SEA DIRECTIVE AND RBMS GUIDELINES

The River Basin Management Plan (“System”) is the primary output of the Water Framework Directive. The format and content of these plans in Ireland is expanded in the RBMS Guidelines. A comparative review of both the RBMS Guidelines and the requirements under Annex 1 of the SEA Directive revealed the following issues:

- Under Annex I (a) of the SEA Directive there is a requirement to outline the main objectives of the P/P and its relationship with other plans or programmes in the SEA report. This requirement is also required in the RBMS Guidelines, stating that objectives of the System should be outlined in detail and reference made to other plans/programmes (eg. *Managing Ireland’s Rivers and Lakes- A Catchment based strategy against Eutrophication (in EPA, 2000)*). Reference should also be made to Directives, for example Council Directive 76/464/EEC on “pollution caused by certain dangerous substances discharged to the aquatic environment”.
- Annex I (b) of the SEA Directive, requires the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan to be described. The RBMS Guidelines require details of the relevant aspects of the current state of

the environment to be described. However there is no requirement to describe how this may change in the future in the absence of the RBMS.

- Annex I (c) requires a description of the environmental characteristics of areas likely to be significantly affected. The RBMS Guidelines require both a quantitative and qualitative description of the environmental characteristics of the areas likely to be affected. Water quality assessment for projects will be based upon established biological, chemical and physico chemical parameters, keeping in mind the requirements of relevant EU Directives and national standards. Annex II of the Water Framework Directive also places a strong obligation on determining environmental characteristics of areas likely to be affected and therefore show a clear overlap with the SEA Directive.
- Annex I (d) requires existing environmental problems which are relevant to the plan, including those relating to any designated area under the Birds or Habitat Directives areas to be listed. The minimum list of measures to be included in the RBMS are outlined in Appendix 6 of the RBMS Guidelines. Appendix 6 lists all EU legislation that must be adhered to, including the Birds and Habitats Directives. Throughout the RBMS Guidelines, reference is made to the importance of the Nitrates Directive 91/676/EEC and the Urban Waste Water Treatment Directive (91/271/EEC).
- In terms of describing environmental effects, there is no onus on the contractor to provide details on the effects of the RBMS on material assets, architecture and cultural heritage as would be required under the SEA Directive. The RBMS Guidelines place stronger influence on the physical, chemical and biological components of the environment rather than on cultural and material assets.
- Annex 1 (g) of the SEA Directive requires a description of measures to “prevent, reduce and where fully possible offset any significant adverse environmental effects”. A summary of program of measures to achieve the same purpose is also a requirement stated in the RBMS Guidelines.
- Annex I, (h), requires an outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties encountered in acquiring the required information. Alternative measures or approaches to safeguarding water quality in the catchment do not require consideration under the Water Framework Directive.
- Annex I, (i) requires an outline of measures envisaged concerning monitoring. As previously stated, monitoring is a key component in

the Water Framework Directive and its importance is reflected strongly in the RBMS Guidelines. The RBMS Guidelines require existing monitoring regimes to be taken into account and requires both qualitative and quantitative monitoring to be undertaken. An indicative list of facilities monitoring requirements is included in Appendix 4 of the RBMS Guidelines.

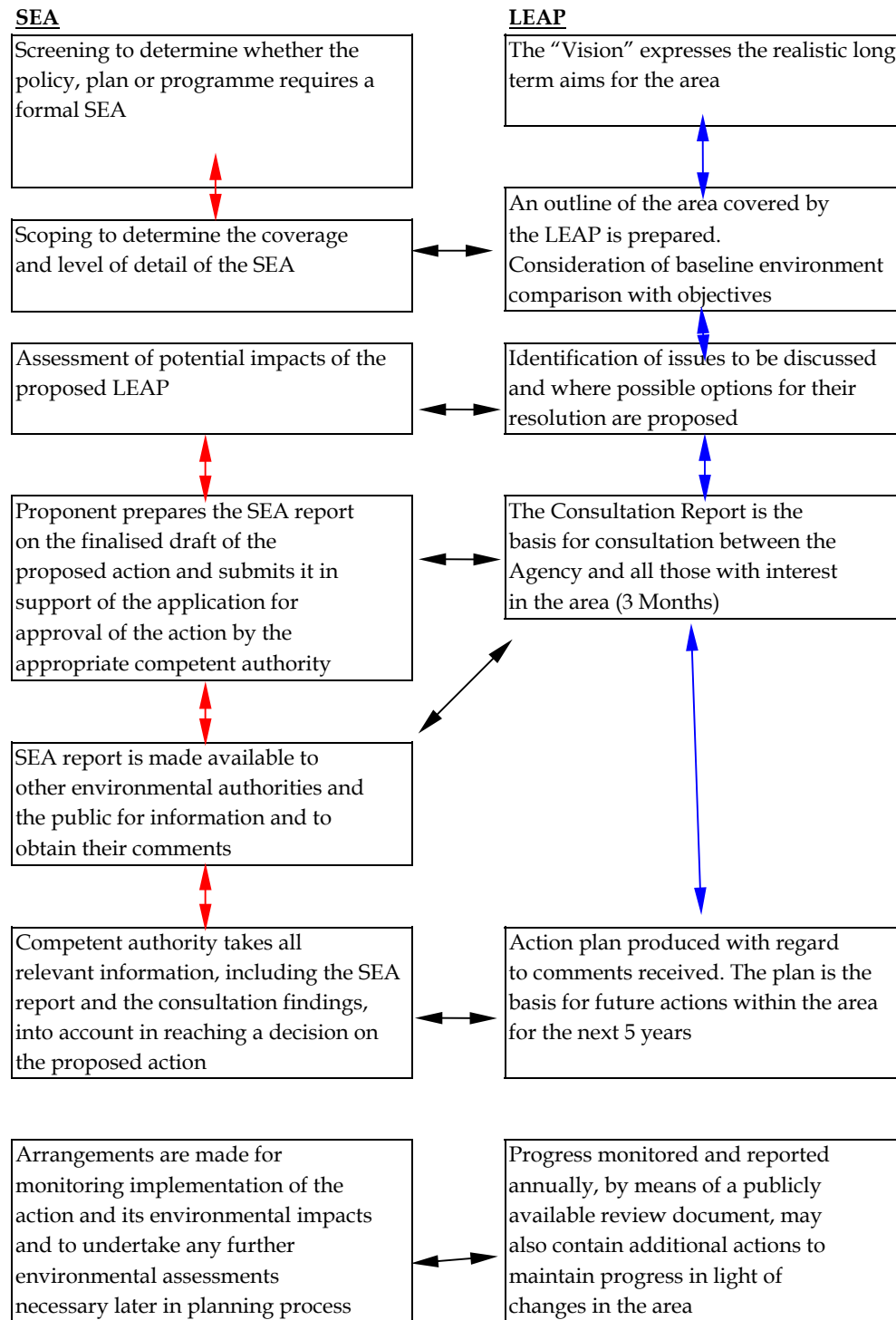
E1.7 IMPLEMENTING THE WATER FRAMEWORK DIRECTIVE IN THE UNITED KINGDOM

In England and Wales, the Environment Agency is the primary body with responsibility for the protection of the water environment and the management of competing demands for water resources. For each Environment Agency "Catchment Management Area" a Local Environment Agency Plan ("LEAP") is produced. According to the Environment Agency, LEAPs identify, assess and prioritise actions and projects, through partnerships, for resolving local environmental issues" (Rath, 2002; Environment Agency (a), 1998). They are the Environment Agency's main current method of setting out, and consulting on, its plans for environmental improvements in a local area.

LEAPs are the UK's current, non-statutory management plans for individual river basin areas. The objective of an LEAP is to identify and assess, prioritise and solve local environmental issues related to the agency's functions, taking into account the views of the agency's local customers in the basin area (Environment Agency, 1998 (a); Rath, 2002). In addition to designing and implementing management options for the catchment, LEAPs undergo an assessment, which checks the plans and management strategy for progress, and problems in annual reviews.

These assessments could be interpreted as being an SEA-type approach for the water environment for the UK. A comparison between the principal stages in the SEA process and the LEAP preparation process is shown in Figure 2.2. The competency with which they carry out this task will be discussed in chapters five and seven (Rath, 2002).

Figure E7.1a Principal stages in the SEA and LEAP processes (Rath, 2002; EA, 1998(b); and Lee and Walsh, 1992)



The preparation of the Local Environment Agency Plans include procedures which represent the UK's current method of undertaking a strategic environmental assessment on its plans for environmental improvements in a local area. Therefore a comparison of LEAPs and the Water Framework Directive will give a strong indication of the compatibility of the two Directives. Research undertaken by Rath (2003) assessed the applicability of

the SEA process to the LEAP process in the UK. Following review of five LEAPs, their key strengths and weaknesses were identified, with regard to their performance in SEA-terms. This was achieved by comparing the LEAPs to criteria that contained all elements required under the Water Framework Directive. The main strengths and weaknesses are highlighted below.

Strengths

- Consultation was generally well attempted.
- Under the baseline data assessment, human impact assessment for surface waters was well done, usually involving a catchment approach and cumulative assessment of impacts.
- Actions were well planned. Several alternative actions were looked at including the 'do nothing' alternative; as well as the funding and environmental impacts for each option.
- Actions covered a range of areas e.g. biodiversity, sustainable water use, etc.
- Large network of existing and continuing identification and building of new partnerships to promote action to resolve local environmental issues.
- Good consideration of local needs and priorities.

Weaknesses

- Overall, groundwater was very poorly addressed, with surface water being better attempted in every section. There was a poor attempt to define groundwater baseline environment, no attempt to identify links with surface waters, environmental objectives and actions were poorly addressed.
- The level of detail in documents was poor and limited their use. Monitoring information was particularly poor for both surface and ground waters.
- Variation in LEAP documents was obvious, both between EA areas and even among individual LEAP areas within the same EA area.
- Special initiatives are required for water bodies in trouble to help address certain types of water bodies in the way that the directive requires e.g. bathing water and lakes projects in South Cumbria.

E1.8 CONCLUSIONS

A review of the requirements of both the SEA Directive and the Water Framework Directive has shown that there are a number of overlapping requirements that may be met by undertaking a single assessment. The types

of SEA that will be undertaken for RBMSs will have to meet the requirements of both Directives and may require a broadening of scope than that prescribed in the Irish RBMS Guidelines. For example, alternatives will have to be considered in more detail, baseline data will have to include material and cultural aspects of the environment and a formal SEA report will have to be published and reviewed.

Experiences of preparing LEAPs in the UK, which fulfil the role of the River Basin Management Plans, has shown that the SEA process can fit into the existing procedures quite well. Weaknesses that have been noted in their approach will be solved with increasing experience and implementation of both directives.

GLOSSARY

Authority: *“a body, whatever its legal form and regardless of the extent (national, regional or local) of its powers, which has been made responsible, pursuant to a measure adopted by the State, for providing a public service under control of the State, and it has for that purpose special powers beyond those which result from the normal rules applicable in relations between individuals (case C-188/89 Foster and Others v British Gas). “*

Baseline environment: a description of the existing environment against which future changes can be measured.

Baseline-led assessment: the objectives of the plan or programme are assessed in terms of their impact upon the environmental baseline conditions in the area where it will be applied (ICON, 2001).

Cumulative effects/impacts: Impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project.

Do-nothing scenario: the baseline environmental conditions that would exist in the future (at a stated time) if no plan or programme was implemented or revised (depending upon the context of the SEA). Provides a benchmark against which other options may be compared.

Eco-audits: a form of impact assessment piloted at the national level by Irish Government Departments.

Environmental Appraisal: term used for a type of SEA practiced in the UK land-use planning sector since the early 1990's.

Impact Matrix: A technique by which the results of assessments can be presented in SEA reports. It is recommended that the matrices include a commentary to explain the judgements that have been made.

Indicators: Aspects of environmental quality which are used to determine the progress toward achieving the SEA objective over time.

Indirect effects/impacts: Impacts on the environment, which are not a direct result of the project, often produced away from or as a result of a complex pathway. Sometimes referred to as second or third level impacts, or secondary impacts.

Integrated Assessment: a term which has a variety of meanings. **1.** A form of assessment that addresses social (e.g. health, gender, population), environmental and economic impacts in one assessment system. **2.** Assessment systems that take place within another sort of procedures of requirements rather than as a separate set of procedures.

Objective-led assessment: analyses the impacts of the P/P upon the environmental objectives for the area rather than the baseline environment itself (ICON, 2001).

P/P developers: staff within the organisation responsible for preparing the plan or programme.

Project-level EIA: the process of environmental impact assessments as applied to individual development proposals, as set out in EC Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment (as amended).

Scoping: the process by which the key aspects of the plans or programme being assessed are identified and the terms of reference of the SEA are set. Also the process by which the level of detail and the content of the SEA report is to be set.

Screening: the process by which plans and programme are scrutinised to determine whether they are subject to SEA.

SEA Objectives: criteria or objectives which are generated in the SEA process, upon which the proposed Plan or Programme may impact.

SEA practitioners: staff within the organisation responsible for undertaking the SEA and preparing the SEA report and other documentation. They may be the same staff who are involved in preparing the plan or programme.

SEA Report: the “environmental report”, published alongside the draft plan or programme.

SEA Statement: a document produced alongside or within the adopted P/P reporting how the SEA has influenced the form of the P/P.

Sustainability Appraisal: terms used for a type of SEA practiced in the UK for a variety of sectors, principally land-use planning. It is replacing environmental appraisal in practice and embraces social and economic impacts as well as environmental impacts.

Synergistic effects/impacts: Impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project but the significance of the impact exceeds that which would be expected by adding the impacts.

Targets: A specified goal or level of environmental quality that is capable of being measured to determine if the objective has been attained.

Tiering: the concept of transmitting the outputs of SEA between different levels of decision-making to maximise the benefits, ultimately resulting in sustainable choices being made with regard to development proposals. Tiering may occur vertically down through levels of administration e.g.

Regional level->County level or horizontally between different systems at the same level e.g. between County Council Departments.

Transboundary impacts: an impact which may originate in one location but is received in another region separated by a legal boundary or similar division. Usually regarded as being inter-country impacts.