

REMEDE



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1. Introduction

The main objective of REMEDE is to expand the framework outlined in Annex II of Directive 2004/35/EC on environmental liability with regard to the prevention and remedying of environmental damage¹ (hereinafter: Environmental Liability Directive or ELD) and to produce a toolkit to assist public authorities and others in applying the ELD and Annex II. The Environmental Liability Directive is, however, not the only EC directive which requires measures to be taken to offset the loss of protected natural habitats and species if damage is (likely to be) caused to such natural resources. The toolkit to be developed should therefore also be applicable in the context of the Wild Birds and Habitats Directives² and the Environmental Impact Assessment Directive (hereinafter: also EIA Directive³).

The aim of this report is to produce a legal analysis of the ELD and the other directives mentioned. Since the report is basically drafted to guide the other consortium members (mostly (environmental) economists or ecologists) in developing the toolkit, the report focuses on the aspects most relevant to them, namely the measure of damages and the nature of the remediation measures to be taken under the ELD and the other directives mentioned.

The report starts with an analysis of the Environmental Liability Directive, including the Annex to the Directive that provides a "*common framework in order to choose the most appropriate measures to ensure the remedying of environmental damage*", Annex II (Chapter 2). It then examines the Habitats and Wild Birds Directives and specifically the provisions of these Directives that determine under which certain conditions - to use a term of the ELD - remediation measures are to be taken, as well as the nature and goal of such measures (Chapter 3). Chapter 4 deals with the Environmental Impact Assessment Directive regarding the obligation of the developer of a certain project to provide information to the public authorities regarding the measures envisaged to "offset any significant adverse effects to the environment". Finally, Chapter 5 focuses on the question of whether Annex II of the ELD can be applied to determine the extent and nature of the measures to be taken to offset an anticipated loss of natural resources under the Habitats and Wild Birds Directives and the Environmental Impact Assessment Directive.

¹ Directive 2004/35/EC, 21.4.2004, OJ 2004 L 143/56 (<ec.europa.eu/environment/liability>). Member States have until the end of April 2007 to transpose this Directive into domestic law.

² Resp. Directive 79/409/EEG, OJ 1979 L 103/1 and Directive 92/43/EEG, OJ 1992 L 206/7. The text of both Directives, including their Annexes, can be found on <ec.europa.eu/environment/nature/home.htm>.

³ Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment (OJ L 175, 5.7.1985, p. 40) as amended by Directive 97/11/EC of 3 March 1997 (OJ L 73, 14.3.97, p. 5) <ec.europa.eu/environment/eia/eia-legalcontext.htm#legalcontext>.

2. The Environmental Liability Directive

2.1 Scope and objective of the ELD

Directive 2004/35/EC on environmental liability with regard to the prevention and remedying of environmental damage was adopted by the European Parliament and the Council in April 2004. Through its objective of providing a common framework for remediating (and preventing) environmental damage in the European Union, the ELD is another step in the development of the EU's nature protection policy. It complements existing ex ante EC nature conservation regimes such as those established by the Wild Birds and Habitats Directives. Unlike the ELD, these directives do not contain provisions that enable Member States to order (certain) persons who are responsible for causing actual environmental damage to remediate such damage, or to recover the costs of remedial measures if the Member State took these measures itself.

2.1.1 *Strict or fault-based liability*

The ELD imposes either a strict or fault-based liability - depending on the type of activity involved - on the operator of an occupational activity for damage to protected species and natural habitats, contamination of land and damage to waters covered by the Water Framework Directive⁴ (provided the damage is above a certain threshold) (see Articles 2(1) and 3). Operators who undertake an activity that is covered by the EC legislation listed in Annex III of the Directive, can be held strictly liable for the above three types of harm (for which the overarching term 'environmental damage' is used) (see Section 2.2). The EC legislation listed in Annex III includes Directive 96/61/EC concerning Integrated Pollution Prevention and Control (IPPC Directive) and legislation on the transportation of dangerous substances, on waste management operations and on the direct release of genetically modified organisms into the environment. Most of the activities covered by the listed EC legislation can be considered environmentally risky activities. A fault-based liability is imposed on operators of non-listed occupational activities. These operators can only be held liable for damage to protected species and natural habitats and not for the other types of harm mentioned (provided, naturally, that all requirements listed in the Directive are met).

There are several situations that are exempt from the Directive. For example, environmental damage that arises from an incident in respect of which liability or compensation falls within the scope of a number of listed international civil liability conventions is not covered by the Directive, provided the convention is in force in the Member State concerned⁵. An example of such a convention is the International Convention of 27 November 1992 on Civil Liability of Oil Pollution Damage. This convention, which is in force in most of the Member States, covers environmental damage caused by oil tankers and other oil transporting ships.

Furthermore, an operator may escape liability if he proves that the damage was caused by a third party (provided appropriate safety measures were in place), or if he proves that the damage resulted from compliance with an order or instruction from a public authority⁶. The ELD also allows Member States the discretion to exempt an operator from liability where the operator demonstrates that he was not at fault or negligent, and that the environmental damage caused resulted from an emission or event expressly authorised by the regulatory authority⁷. Apart from the so-called regulatory compliance defence, Member States may also

⁴ Directive 2000/60/EC establishing a framework for Community action in the field of water policy, OJ 2000 L327/1. The text of the Directive and some related documents are available at <ec.europa.eu/environment/water/water-framework/index_en.html>.

⁵ See art. 4(2-4) and Annex IV and V of the ELD.

⁶ See art. 8(3) of the Directive.

⁷ See art. 8(4)(a) of the Directive.

decide to exempt an operator from liability where the operator demonstrates that he was not at fault or negligent, and that the environmental damage caused resulted from an emission or event not considered likely to cause environmental damage according to the state of scientific and technical knowledge at the time the emission was released or the activity took place⁸.

Finally, the ELD also does not apply to environmental damage caused by an emission or incident that took place before 30 April 2007, the date by which the Directive must be transposed into national law.

2.1.2 *(Un)limited liability*

Liability under the ELD is not limited to a certain amount of money. This does, however, not mean that liability is unlimited. The Directive contains an annex - Annex II - that provides guidance regarding the selection of the most appropriate measures to remedy the environmental damage caused. These guidelines have been introduced to, among other things, prevent the operator who caused damage to the natural resources covered having to finance remediation measures that can be considered unreasonable given the costs involved. Relevant in this respect is for instance paragraph 1.3.1 of Annex II, which stipulates that only reasonable remediation options are to be evaluated when selecting the most appropriate one for the specific case. One of the factors to be taken into account in that respect is the cost of implementing the various remediation options⁹. It is to be noted that the ELD does not include a definition of disproportionate costs or a specific standard for determining at which point the costs of a certain remediation option become disproportionate. It is also unclear to what extent the value of the natural resources impacted upon by the incident is relevant for determining the reasonableness of the remediation option considered. In the paragraphs 2.4.3 of this report more attention is paid to this issue.

2.1.3 *Standing*

Under the ELD only the public authorities have the right to require the operator who caused significant damage to the natural resources covered to take the necessary remediation measures, or to recover the costs of taking such measures themselves from the operator (see Article 6(2)(c),(e) and(3))¹⁰. The authority to require that the necessary remediation measures are taken or to recover the costs of such measures is limited to the measures taken with regard to natural resources falling under the scope of the regime, including the natural resources that are privately owned. The latter is understandable given that the natural resources concerned are of public value¹¹. The ELD thus empowers the public authorities to act as a sort of trustee for the natural resources concerned. In that respect, the ELD is comparable to the US federal laws that provide a legal basis for claiming compensation for injury to public natural resources (i.e. the Comprehensive Environmental Response, Compensation, and Liability Act¹² and the 1990 Oil Pollution Act¹³ (OPA)). Under these laws, particular public authorities act on behalf of

⁸ See art. 8(4)(b) of the Directive. Taken the wording of Article 8(3) and (4) of the ELD, Member States may decide to apply above exemptions to both occupational activities listed in Annex III and non-listed occupational activities.

⁹ See para. 1.3.1 of Annex II. See also para. 1.3.3 of the annex.

¹⁰ Taken the wording of Article 6(1)(b) of the ELD, the ELD imposes a direct duty on operators to carry out the 'necessary remedial measures'. It is a so-called self-executing provision. See further on this aspect of the Environmental Liability Directive, Fogleman (2006), p. 131-136.

¹¹ The decision not to distinguish between owned and unowned natural resources is a logical decision since such a distinction would make the regime highly impractical. It should, however, be recognised that structuring a regime as in the ELD might have legal and economic consequences for landowners. See further Brans (2001), p. 26-28.

¹² 42 U.S.C. §§ 9601 et seq.

¹³ 43 U.S.C. §§ 2701 et seq.

the public as a trustee for certain natural resources and are empowered to assess and claim damages for injuries to these natural resources¹⁴.

Under the ELD, public interest groups, i.e. non-governmental organisations (NGOs), are (thus) excluded from the right to require an operator who caused damage to the natural resources covered to take the necessary remediation measures, or to recover the costs of such measures if it takes them itself. Instead, public interest groups are afforded the right to request the competent authorities to take action under the Directive (Article 12). Provided the request for action and the accompanying information and data show in a 'sufficiently plausible' manner that environmental damage has been caused, the public authorities are under a duty to consider the requests and have to inform the NGO of its decisions taken¹⁵. Public interest groups have the right to bring legal proceedings for review of the public authorities' response to their request for action¹⁶. The same rules apply to persons whose property is affected by damage to the natural resources covered by the Directive¹⁷.

Public interest groups and private property owners on whose land or waters remediation measures need to be taken have a right to submit observations with regard to the nature of such measures¹⁸. Taking the wording of Article 7(4) of the ELD, it seems that the right to submit observations is limited to the selection of the remediation options available, and does not extend to issues such as the type of injury determination studies to be undertaken.

2.2 Types of natural resources covered by the ELD

As noted earlier, the Environmental Liability Directive imposes a strict or fault-based liability - depending on the type of activity involved - for damage to protected species and habitats, for contamination of land and for damage to waters covered by the Water Framework Directive. Operators who undertake an activity listed in Annex III of the Directive can be held strictly liable for these three types of harm. Operators of non-listed occupational activities can only be held liable for damage to protected species and natural habitats, and not for damage to the waters covered by the Water Framework Directive or for the contamination of land¹⁹.

Before examining this in more detail, it should be noted that neither the ELD nor its preamble explains why an operator is exempt from liability if the damage to waters covered by the Water Framework Directive or soil pollution damage is caused by a non-listed activity. The decision is understandable for cases where damage has been caused to natural areas not covered by the ELD (i.e. areas other than, for example, Natura 2000 sites, or the sites brought under the scope of the ELD by the Member States (see Article 2(3)(c))). However, if damage is caused to natural sites falling under the scope of the Directive, it might prove to be inefficient not to be able - at least not under the ELD - to hold an operator liable for soil pollution damage. In most cases, whatever the cause of the incident, it will be necessary first to take measures to clean up the polluted area before actions can be undertaken to enhance the restoration process and help the injured natural resources and services return to baseline condition. Member States have to fall back on their national laws in order to be able to force the operator concerned to take

¹⁴ OPA 33 U.S.C. §§ 2701(20); 2702(b), 2706(a); CERCLA 42 U.S.C. §§ 9601(16), 9607(a)(4). For further details, see Brans (2001), p. 65 et seq.

¹⁵ See Art. 12(4).

¹⁶ See Art. 13.

¹⁷ The Directive does not prevent a person whose property has been affected by a certain incident from filing a claim against the (potential) responsible party on the basis of national law. However, the Directive prohibits a double recovery of the damage (Art. 16(2)). No rules have been included in the ELD on how to prevent overlapping claims and draw a line between public and private losses.

¹⁸ See Art. 7(4).

¹⁹ See Art. 3(1)(a) and (b).

clean-up measures, or to recover the costs of such measures if the Member State took such measures itself.

The above described problem might also arise where an operator of a non-listed activity causes damage to the waters covered by the Water Framework Directive. However, it appears that at least a portion of the waters covered by this Directive have been or are likely to be appointed as Natura 2000 sites by the Member States (i.e. as special areas of conservation or special protection area (see further section 2.2.1)).

2.2.1 *Protected species and natural habitats*

The scope of the ELD where it concerns protected species and habitats is, in principle, limited to the species and natural habitats protected by the Wild Birds and Habitats Directives (see Article 2(3)). However, Member States have the option to bring species and natural habitats not covered by the Wild Birds and Habitats Directives under the scope of the ELD. This is only possible if such natural resources are protected by national protection and conservation laws (Article 2(3)(c)).

What natural resources are protected by the Wild Birds and Habitats Directives? According to Article 1 of the Wild Birds Directive, the Directive applies to all species of wild birds naturally occurring in the EU including their eggs, nests and habitats. The Habitats Directive has a different approach, as it provides that measures taken pursuant to this Directive 'shall be designed to maintain or restore, at favourable conservation status, natural habitats and species of wild flora and fauna of Community interest'²⁰. Thus not all types of natural habitats and species of wild flora and fauna are covered under the Habitats Directive, only those of Community interest. This in contrast with the Wild Birds Directive, 'which applies to all Community avifauna' (Sadeleer, 2005, p. 219). However, with regards to certain bird species the Wild Birds Directive specifies that 'special conservation measures' need to be taken with respect to the bird species listed in Annex I of the Wild Birds Directive and non-listed migratory bird species²¹. The Birds Directive makes it clear that such measures should (also) be taken with regard to breeding, moulting and wintering areas and staging posts along migration routes used by these birds. An example of such a 'special conservation measure' is the designation of Special Protection Areas (SPAs).

The natural habitat types of Community interest are listed in Annex I of the Habitats Directive. The list includes about 210 natural habitat types. The habitats concerned are either endangered, have suffered from regression, or constitute outstanding examples of the typical characteristics of one or more of the five following biogeographical regions: Alpine, Atlantic, Continental, Macaronesian and Mediterranean. Species of Community interest are listed in Annex II and/or Annex IV or V of the Habitats Directive. Such species are either endangered, vulnerable, rare or endemic²².

In order to fulfil the objectives of both the Wild Birds and Habitats Directives, i.e. the conservation of biodiversity, Member States are required to designate Special Protection Areas and Special Areas of Conservation (SACs) respectively²³. The latter are sites hosting natural habitat types listed in Annex I of the Habitats Directive and the habitats of the species listed in

²⁰ See Art. 2(2) of the Habitats Directive.

²¹ See Art 4(1) and(2) of the Wild Birds Directive.

²² In accordance with Article 1(d) and (h) of the Habitats Directive, a distinction is made in Annex I and II between respectively so-called priority natural habitat types and other habitat types of Community interest and priority species and other species of Community interest. With regard to the priority natural habitat types and species 'the Community has particular responsibility in view of the proportion of their natural range which falls within [the territory of the Member States]' (Article 1 of the Habitats Directive).

²³ See further on the classification process and the criteria used to select SPAs and SACs, Sadeleer 2005, p. 220-231.

Annex II to this Directive²⁴. The SPAs and SACs together form a European ecological network called Natura 2000. These Natura 2000 sites should enable 'the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status'²⁵. It is expected that about 10% to 12% of the territory of the European Union will finally be classified as a Natura 2000 site²⁶.

In the earlier versions of the ELD, the regime was limited to the natural resources located in Natura 2000 sites. Damage to natural resources located outside the Natura 2000 sites was not covered, even if the damage would have been caused to species and/or natural habitats protected under the Wild Birds and Habitats Directives. The geographical limitation of the draft ELD to Natura 2000 sites was considered by NGOs and others as a serious restriction to the scope of the regime²⁷. In response to this opposition, it was finally decided to set aside the idea of limiting the liability regime to Natura 2000 sites. Now the regime covers most natural resources protected by the Wild Birds and Habitats Directives, wherever located.

In previous versions of the ELD the term 'biodiversity damage' was used to determine the scope of the Directive where it concerns the natural resources covered²⁸. However, because the focus of the ELD is on the species, natural habitats and waters protected under the various EC nature conservation Directives, and not on biodiversity as defined under the 1992 Convention on Biological Diversity²⁹, the term was deleted. Consequently damage to biodiversity as defined in the 1992 Biodiversity Convention is not covered by the ELD. This, however, does not necessarily mean that loss of biodiversity cannot be considered when planning remediation measures to bring back the impacted natural resources to baseline condition.

2.2.2 *Damage to waters covered by the Water Framework Directive*

The ELD also covers damage to waters, however, only insofar as these waters are covered by the Water Framework Directive (WFD). The WFD establishes a framework for water policy in the EU based on the principle of integrated river basin management³⁰. The environmental objectives of the WFD are defined in Article 4. One of the main objectives of the WFD is the reduction and prevention of water pollution, the protection of the aquatic environment and the improvement of aquatic ecosystems. The Water Framework Directive applies to all water resources in the EU, including inland surface waters, transitional waters, coastal waters and groundwater³¹.

Member States are currently in the process of implementing the WFD. One of their tasks is to make sure that the WFD-related standards and environmental objectives are met for

²⁴ See Article 3(1) of the Habitats Directive.

²⁵ Ibid.

²⁶ See further on the designation process, <europa.eu.int/comm/environment/nature/>.

²⁷ See further Betlem and Brans (2002), p. 192-193.

²⁸ See in this respect the 2000 White Paper on Environmental Liability (COM(2000) 66 final) and the EC's 2001 Working Paper on Prevention and Restoration of Significant Environmental Damage, both available at <europa.eu.int/comm./environment/liability>.

²⁹ (1992) 31 ILM 818. In this convention biodiversity is defined as the number, variety and variability of all species of plants, animals and micro-organisms as well as the ecosystems of which they are a part (Art. 2). Biodiversity is thus more than just the number of species in a certain area. In fact, there are four levels at which biodiversity is assessed: genetic diversity within a species, the variability among species, functional diversity (which refers to the variety of biological functions of ecosystems), and ecosystem diversity (which refers to the variety of communities of organisms within particular habitats). Harper and Hawksworth (1996), p. 6.

³⁰ Linked to this Directive is a number of so-called Daughter Directives, one of them being the Groundwater Directive (Dir. 80/68/EEC, OJ 1980 L 20/41). A revision of this Directive is being prepared. See Proposal for a Directive on the Protection of Groundwater against Pollution, Brussels 19.9.2003, COM(2003) 550 final

³¹ See Article 1 of the Water Framework Directive. See further Olazábal (2004), p. 166-170.

'protected areas' (unless otherwise specified in other EC Directives) by 2015³². These areas include areas designated for the protection of habitats or species where the maintenance or improvement of the status of water is an important factor in their protection, including relevant Natura 2000 sites designated under the Wild Birds and Habitats Directives³³. Other examples of protected areas are the 'bodies of water used for the abstraction of water intended for human consumption' and 'areas designated for the protection of economically significant aquatic species'³⁴. It might be that Member States have to designate areas as protected areas that have not been designated as such yet.

No precise figures are available, but by including the above waters it is likely that the geographical boundaries of the liability regime of the ELD have been expanded considerably. It is, however, to be noted that damage to the waters covered will only be recoverable if certain threshold criteria are met (see Section 2.3). Furthermore, the Directive excludes operators of non-listed activities from liability for damage to these waters (see Articles 3(1)(b)).

2.2.3 Soil pollution

The Directive also covers soil pollution. It is thereby immaterial where the contaminated land is located and whether the land is privately owned or not. As noted earlier, this type of damage is only recoverable under the ELD if the land damage is caused by a listed potentially dangerous activity (see Annex III). If this is not the case, the operator will escape liability (at least under EC law³⁵) (see Articles 3(1)(b))³⁶. In addition, as with the other types of damage covered by the ELD, land damage is only recoverable if certain threshold criteria are met (see Section 2.3).

2.3 Threshold criteria and baseline condition

Under the ELD, damage to protected species and natural habitats, water damage and soil pollution is only recoverable if certain threshold criteria are met.

2.3.1 Damage to protected species and natural habitats

According to Article 2(1) of the ELD, damage to protected species and natural habitats will only be recoverable if the damage is of such a nature that it has 'significant adverse effects on reaching or maintaining the favourable conservation status' of the habitats and species concerned. The significance of such effects is to be assessed with reference to the baseline condition, taking account of the criteria set out in Annex I of the ELD.

The term 'conservation status of a natural habitat' is defined in the ELD - the wording is similar to that in the Habitats Directive - as 'the sum of the influences acting on a natural habitat and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species within [...] the European territory of the Member States to which the Treaty applies or the territory of a Member State or the natural

³² See Art. 4(1)(c) of the Water Framework Directive.

³³ See Art. 6 and Annex IV of the Water Framework Directive. See further Grimeaud (2001), p. 91-92.

³⁴ See Artt. 6 and 7 and Annex IV of the Water Framework Directive.

³⁵ Most Member States do have laws for the decontamination of soil pollution. Seerden and Deketelaere (2000) provide a valuable overview.

³⁶ The EC recently published a proposal for a framework Directive that sets out common principles for protecting soils across the EU. The proposal foresees an amendment of the ELD where it concerns the remediation of contaminated sites. See Articles 23 and 13 of the Proposal for a Directive establishing a framework Directive for protecting soil and amending Directive 2004/35/EC, Brussels 22.9.2006, COM(2006) 232 final (available at: <http://ec.europa.eu/environment/soil/index.htm>).

range of that habitat'³⁷. The conservation status of natural habitats is considered favourable when 'its natural range and areas it covers within that range are stable or increasing, [...] the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and the conservation status of its typical species is favourable as defined in [Article 2(4)(b) of the ELD]',³⁸.

Conservation status of species means (the wording is, again, similar to that in the Habitats Directive): 'the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within [...] the European territory of the Member States to which the Treaty applies or the territory of a Member State or the natural range of that species'³⁹. The conservation status of a species is considered favourable when 'population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and [finally] there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis'.

According to Article 11(2) of the ELD the competent (public) authority is under a duty to assess the significance of the damage caused. To that effect, the competent authority may require the operator concerned to carry out its own assessment and to supply any information and data necessary. With this information and these data, the competent authority has to determine whether a particular incident has (had) such an impact on the habitats and species protected under the Wild Birds and Habitats Directives - and other habitats and species if the Member State so determines (Article 2(3)(c)) - that it has 'significant adverse effects on reaching or maintaining the favourable conservation status' of these habitats and species. In order to determine whether this is indeed the case, the competent authority has to compare the condition these species and habitats are in after the incident occurred, with the baseline condition of these natural resources. In Section 2.3.4 this issue will be addressed in more detail.

2.3.2 *Damage to waters covered by the Water Framework Directive*

According to the ELD, damage to the waters covered by the ELD is only recoverable if the damage is of such a nature that it 'adversely affects the ecological, chemical and/or quantitative status and/or ecological potential' of these waters (Article 2(1)(b)). These terms are not defined in the ELD. However, the terms are defined in the WFD, in Article 2 and Annex V⁴⁰. Also Relevant to the application of the ELD is the fact that the Water Framework Directive provides criteria for determining whether or not the ecological, chemical and/or quantitative status and/or ecological potential of the waters concerned have been adversely affected. In addition, under the WFD Member States are required to monitor these waters and are obliged to, among other things, quantify elements necessary for the classification of the ecological, chemical and/or quantitative status of these waters⁴¹. The result hereof is probably that with these (and other) data the competent public authorities and/or the operator concerned are able to determine whether damage caused to these waters is such that it is beyond the threshold described above.

³⁷ See 2(4)(a) of the ELD. See also Art. 1(e) of the Habitats Directive.

³⁸ Ibid. It is to be noted that as yet there is no generally accepted definition of what 'typical' species are.

³⁹ See 2(4)(b) of the ELD. See also Art. 1(i) of the Habitats Directive.

⁴⁰ See for instance the definition of the term 'ecological status': 'Ecological status is an expression of the quality of the structure and functioning of aquatic ecosystems associated with surface waters, classified in accordance with Annex V'.

⁴¹ See inter alia Article 8 and Annex V of the WFD.

2.3.3 Soil pollution

Contaminated land can only be claimed for if the contamination is such that it 'creates a significant risk of human health being adversely affected' (Article 2(1)(c)). The ELD does not contain clear criteria for determining whether the soil pollution is of such an extent that it exceeds the damage threshold. Neither concentration limits of polluting substances nor other objective criteria are provided to determine whether the threshold is met and clean-up becomes necessary⁴². Furthermore, the effects of contamination on species other than humans do not seem to be important when deciding on the necessity of remedial measures. The latter is striking when considering the wider objective of the ELD. As will be shown later, clear clean-up objectives are also missing from the ELD.

2.3.4 Baseline condition

In order to determine whether the damage caused to the natural resources covered by the ELD is such that it becomes recoverable under the Directive, the competent public authority needs to determine whether the damage caused is beyond the thresholds of Article 2 of the ELD. This makes it necessary to assess the significance of the damage caused, whereby the significance of the damage is to be assessed with reference to the baseline condition of the natural resources concerned⁴³.

The baseline condition is defined in the ELD as 'the condition at the time of the damage of the natural resources and services that would have existed had the environmental damage not occurred, estimated on the basis of the best information available'⁴⁴. The wording of this definition is somewhat ambiguous. It is for instance not entirely clear whether natural fluctuations for the natural resources concerned and/or other (natural) causes that have an effect on them have to be taken into account when determining the baseline condition of the natural resources and the services they provide. In the author's view, this should be the case as Annex I of the ELD contains a number of directions in this respect. It is noted, for instance, that negative variations due to natural causes or resulting from the normal management activities of Natura 2000 sites and/or negative variations that are smaller than natural fluctuations regarded normal for the species or habitat in question, do not constitute a significant damage within the meaning of the ELD. This implies that such negative variations are to be taken into account when establishing the baseline condition and determining whether or not the damage is beyond the thresholds of Article 2 of the ELD.

Another important reason why natural fluctuations or negative variations due to natural causes or other influences are to be taken into account lies in the nature of the Environmental Liability Directive. The ELD is a liability regime that aims at implementing the polluter pays principle and the remediation of the environmental damage caused⁴⁵. It is not a penal law regime under which fines can be imposed on the operator who caused the damage; its focus is on making good the damage done. If factors not relating to the incident that caused the damage are not taken into account when determining whether it is beyond the thresholds of the ELD - and, in addition to that, whether remediation is necessary and the type of remediation measures to be taken - this may imply that the operator concerned is required to overcompensate the public. In other words, the operator would be forced to finance remediation measures that go beyond the damage it caused. It is almost certain that this will be unacceptable to the courts in the Member States and the European Court of Justice.

⁴² Some information on the goal of clean-up measures and on how to determine whether or not contamination is such that it poses a significant risk of adversely affecting human health is provided in paragraph 2 of Annex II of the Directive.

⁴³ See Art. 2(15) and Annex I of the ELD.

⁴⁴ See Art. 2(14) of the ELD.

⁴⁵ See the Preamble to the ELD.

The above does not mean that the baseline condition of the natural resources and services impacted can be determined only with the help of detailed site specific studies. According to Annex I to the ELD, certain measurable data need to be taken into account when determining the baseline condition, but the ELD does allow, so it seems, the use of historical, reference and other data to determine the condition of the natural resources and services in the absence of the incident⁴⁶. In addition, it is to be noted that (civil) courts generally do not require proof beyond reasonable doubt, but proof on the balance of probabilities.

Finally, as noted earlier, Annex I of the ELD provides some guidance for determining the significance of the damage in relation to the baseline condition of the natural resources concerned, and the services these resources provide. However, the guidance is only provided with regard to the protected habitats and species and not with regard to land damage or damage to the waters covered by the WFD⁴⁷. Although this is striking, this does not necessarily mean that the above discussion on the establishment of the baseline condition does not apply to these types of damage. Again, deviating from the fundamental principle that one can only be held liable for the damage caused will be likely to be unacceptable to the various courts in the EU.

2.4 Remediation

2.4.1 The Measure of damages

One of the primary objectives of the ELD is to remediate damage to the natural resources covered. The Directive, therefore, emphasizes remediation and chooses the costs of remediation measures as the primary and preferred method to assess damages (and not the monetary value of the natural resources impacted)⁴⁸. However, because it takes time to remediate the impacted natural resources and services to baseline condition⁴⁹, the operator concerned will - at least where it concerns the waters and protected species and habitats covered by the ELD - also be held liable for the loss or impairment of natural resources and services during the restoration period (interim losses)⁵⁰. In addition, the operator concerned can also be held liable for the costs of assessing the environmental damage, as well as the administrative, legal and enforcement costs, the costs of data collection and monitoring, and oversight costs⁵¹.

The ELD measure of damages is to some extent comparable with the measure of damages of the 1990 US Oil Pollution Act (OPA). That is not surprising since the European Commission used the OPA and its natural resource damage assessment regulations (NRDA-rules)⁵² as a source of inspiration. Under the OPA, a responsible party may be held liable for, *inter alia*, the cost of restoring the injured natural resources and services to baseline condition, the cost of restoration that compensates for the interim loss of resources and services that occur from the time of the incident until recovery of such resources and services to baseline condition, and the reasonable cost of assessing damages⁵³.

⁴⁶ This is also allowed under Natural Resource Damage Assessment Rules (NRDA-rules) that have been developed under the US Oil Pollution Act. See 61 Fed.Reg. 1996, p. 447.

⁴⁷ Para 2 of Annex II of the ELD provides some guidance on determining whether the land damage is beyond the threshold of the ELD.

⁴⁸ See Art. 7(1) and Annex II of the ELD.

⁴⁹ That is, the condition of the natural resources and services that would have existed in the absence of the incident that occurred (see 2.3.4).

⁵⁰ See Art. 2(11),(13) and Annex II, para. 1(c) and (d) of the ELD.

⁵¹ See Art. 8(2) to 2(16) of the Directive.

⁵² These NRDA-rules are published in 61 Fed.Reg. 1996, p. 440 et seq. Guidance documents of NOAA further explain these NRDA-rules (www.darp.noaa.gov).

⁵³ 33 USCA § 2702(b)(2)(A). See also 61 Fed. Reg. 1996, p. 441 et seq.

2.4.2 *Objective of the remediation measures to be taken*

Before getting into detail, it is to be noted that with regard to the objectives of the remediation measures to be taken, a distinction is to be made between damage caused to the waters and protected species and habitats covered under the ELD, and soil pollution or land damage. With regard to the latter the remediation measures to be taken do not take into account the interim losses (see 2.4.2.b).

The following paragraphs provide an overview of the remediation objectives in the context of damage to: (a) waters and protected species and habitats; and (b) soil pollution. The details will be provided in the toolkit.

(a). Damage to waters and protected species and habitats

According to Article 7(1) of the ELD, the operator concerned has to identify, in accordance with Annex II of the ELD, the potential remedial measures that can be taken to offset the environmental damage and submit them to the competent authority for approval, unless the competent authority has taken the necessary remediation measures itself. The competent authority then has to decide which remedial measures shall be implemented.

With regard to the damage caused to waters and protected species and habitats, Annex II stipulates that the restoration of these natural resources to their baseline condition is to be achieved by way of so-called primary, complementary and compensatory remediation measures. Before getting into the distinctions between these, it should be noted that the objective of these measures is not only to bring back the damaged natural resources to baseline condition, but also to restore the impaired natural resource services to baseline condition⁵⁴. Natural resource services – the ELD also uses the term ‘services’ – is defined in the ELD as: ‘the functions performed by a natural resource for the benefit of another natural resource or the public’ (Article 2(13) and paragraph 1(d) of Annex II). For example, a coastal wetland provides food and nesting habitats for birds and other species, clean water for fish populations, and is important for biodiversity maintenance and for pollution assimilation. Examples of human benefits deriving from a coastal wetland include recreational fishing and boating, beach use, wildlife viewing, hiking and hunting. So given the above, when developing reasonable remediation options, the loss services contributing to human welfare should also be taken into account. However, it is striking that unlike, for instance, the US Oil Pollution Act and its natural resource damage assessment guidelines, the ELD is not very specific on this point, and does not stipulate either the extent to which lost services to humans are to be taken into account when developing these options, or whether or not it is necessary to conduct detailed site specific studies to determine the extent of lost services to humans. There will probably not be further certainty on this point until cases appear before the European Court of Justice.

The ELD does not specify how the loss or impairment of natural resources’ services, including services provided to humans, is to be assessed and to what extent such service losses are to be taken into account when identifying remediation measures. This is to some extent surprising, not only because it can be costly to estimate the baseline for both the natural resource and its services. It might also be that the remediation measures necessary to compensate for the loss or impairment of such services are costly. This is also surprising, because the US federal laws and their NRDA-rules that were used by the European Commission as a source of inspiration are much more detailed on this point⁵⁵.

The purpose of primary remediation is to restore the damaged natural resources and/or services to, or towards, baseline condition. The purpose of complementary remediation

⁵⁴ See Article 2(15) and Annex II, para 1(b)-(d) of the ELD.

⁵⁵ See for instance 61 Fed. Reg. 1996, p. 448 et seq.

measures - taken in case the primary remediation measures do not fully restore the damaged natural resources and/or services - is to provide a similar level of natural resources and/or services at an alternative site to that which would have been provided if the damaged site had been returned to its baseline condition. Because neither of these compensates for the loss of ecological and/or human services during the restoration period, compensatory remediation measures also need to be taken to compensate for the interim loss of natural resources and services pending recovery. This compensation consists of additional improvements to protected natural habitats and species or waters at either the damaged site or at an alternative site. In order to determine the scale of the complementary and compensatory remediation measures, some specific methods are proposed in Annex II, such as the use of resource-to-resource or service-to-service approaches (i.e. Habitat Equivalency Analysis). The toolkit that will be developed under REMEDE will address these approaches in detail.

Two observations about the framework outlined in Annex II are appropriate here. The first concerns the option to take complementary remediation measures at an alternative site. It is noted in Annex II that where possible and appropriate, the alternative site needs to be 'geographically linked to the damaged site', 'taking into account the interests of the affected population'. What is meant by the terms 'geographically linked' and 'affected population' is not specified; it is not clear whether the latter refers to humans, to non-human species or both. Both the English and Dutch version of the ELD are unclear on this point. However, since the German version of the ELD uses the term 'betroffenen Bevölkerung', it seems safe to conclude that it concerns human interests. Thus human interests are also to be taken into account when selecting the location of the alternative site (and thus not exclusively the interests of the impacted populations of non-human species). For a matter of fact it is to be noted that the ELD is not very clear as to what is meant with the term 'affected population' and whether or not the term refers to a the local community impacted by the loss or impairment of the natural resources covered by the ELD or a more widely, the community in a part of a Member State or the public in general. This is relevant to the application of the ELD as it determines whether or not it is permitted under the ELD to take remediation further away from the place where the damage occurred, not benefiting the impacted local community or the community of a part of a Member State. The toolkit to be developed will further address this issue and the consequences of the choices to be made.⁵⁶

Annex II requires that the alternative site is geographically linked to the damaged site. However, no further guidance is provided regarding the (maximum) allowable distance between the impacted site and the alternative site. Where it concerns Natura 2000 sites, some guidance is provided by *Managing Natura 2000 Sites*, a document by the European Commission drafted to guide the Member States in implementing and using Article 6 of the Habitats Directive (European Commission, 2000). According to this document, an alternative site - it could be argued - should be located within the biogeographical region concerned (i.e. Alpine, Atlantic, Continental, Macaronesian or Mediterranean) (see Section 2.2.1) and should contribute to the conservation (at a favourable conservation status) of one or more natural habitats within that region⁵⁷. It is presumed here that the same applies to compensatory measures; so if such measures need to be taken at an alternative site, there is a preference for sites geographically linked to the damaged site.⁵⁸

The second observation concerns the evaluation of the reasonable remedial options available, which is addressed in Section 2.4.3 below.

⁵⁶ As will be explained in the toolkit, the closer the compensatory or complementary site is to the original, the better for all concerned (humans, flora and fauna). So compensation must be within the same biogeographic region, but should be as close to the damaged site as possible. The greater the distance the larger the level of compensation needed.

⁵⁷ *Managing Natura 2000 Sites*, para. 5.4.2.

⁵⁸ See footnote 56.

(b). Soil Pollution

The above described framework of complementary, compensatory and primary remediation measures does not apply to soil pollution cases. This follows from Annex II of the ELD, which states that remediation is to be achieved through primary, complementary and compensatory measures only with respect to waters and protected species and habitats. With regard to the remediation of land damage it is noted in Annex II that such measures shall be taken to 'ensure, as a minimum, that the relevant contaminants are removed, controlled, contained or diminished so that the contaminated land, taking account of its current use or approved future use at the time of the damage, no longer poses any significant risk of adversely affecting human health'⁵⁹. Natural recovery is one of the remediation options to be considered.

Given the above, it seems safe to conclude that interim losses are not to be considered when selecting the most appropriate measure(s) to remediate land damage⁶⁰. The impairment of natural resources and services during the period of restoration does not play a role here. The operator concerned can therefore not be held liable for interim losses. One exception applies here, however: if the land that has been contaminated is a protected habitat and falls under the scope of the ELD and the land damage is such that it has a significant adverse effect on the natural habitat (see Article 2(1) ELD). In that case, it could be argued, that apparently the operator concerned can be held liable for the interim losses as well.

It is also striking that the European Commission proposed recently, in its *Proposal for a Directive establishing a framework Directive for protecting soil and amending the Environmental Liability Directive*, that remediation with regard to soil pollution should be aimed at 'the removal, control, containment or reduction of contaminants so that the contaminated site [...] no longer poses any significant risk to human health or the environment'⁶¹. So unlike the ELD, this document takes into account the effects of contamination on the environment. Although the term 'environment' is not defined in the legislative proposal, it is clearly indicated in Article 1 (a) and (c) of the proposal that this covers the environmental functions of soil as habitat⁶². It is currently unknown whether or when the proposal will enter into law.

2.4.3 Selection of the most appropriate remediation measures

According to Annex II of the ELD, a reasonable range of remediation options - each consisting of a primary, and if necessary a complementary and compensatory component - has to be developed⁶³. The competent authority then evaluates the various options and selects the most appropriate one on the basis of a set of criteria⁶⁴. These criteria include: the costs of implementing the various options; the extent to which each option avoids collateral damage and benefits each damaged natural resource and/or service; the likelihood of success of each option; the length of time it will take under these options to restore the damaged resources and services to baseline condition; and the extent to which each option achieves the restoration of the site, or geographical linkage to the damaged site if measures are taken elsewhere⁶⁵.

There is no hierarchy of selection criteria, and the selection of restoration actions is incident-specific. However, taken the wording of paragraph 1.3.2 of Annex II, it could be argued that if two or more remediation options are equally preferable, the public authorities have the discretion to select the most cost-effective restoration alternative (provided all requirements

⁵⁹ See para. 2 of Annex II of the ELD.

⁶⁰ This is affirmed by Article 2(15) of the ELD.

⁶¹ See Art. 13 of the *Proposal for a Directive establishing a framework Directive for protecting soil and amending Directive 2004/35/EC*, Brussels, 22.9.2007, COM(2006) 232 final, <ec.europa.eu/environment/soil/index.htm>.

⁶² See Art. 1(a) and (c) of COM(2006) 232 final.

⁶³ Annex II, para. 1.3.2.

⁶⁴ Annex II, para. 1.3.1 - 1.3.3.

⁶⁵ Ibid.

of this paragraph are fulfilled)⁶⁶. For cases where damage is caused to Natura 2000 sites, it could be argued that the extent to which the remediation options evaluated benefit the objectives of the Wild Birds and Habitats Directives is an important - if not a decisive - factor. The same could be said to apply for options that aim to remediate the damage caused to the waters covered by the Water Framework Directive.

The whole process of identifying, evaluating and selecting restoration options is also important for determining when remediation costs become disproportionate. As noted earlier, liability under the ELD is in principle unlimited. Furthermore, the Directive does not set a specific standard or numerical ratio for determining at which point the costs of remediation become disproportionate to the (monetary) value of the natural resources injured, or to the benefits of a particular remediation option. Instead, competent authorities are required to weigh all of the aforesaid (and other) criteria when selecting the most appropriate remediation options (whereby implementation costs is only one factor to be considered)⁶⁷. The ELD offers, however, one other option for Member States to prevent the operator concerned being confronted with a disproportionate claim. Namely, according to paragraph 1.3.3(b) of Annex II, the competent authority is entitled to decide that no further remedial measures need to be taken if 'the cost of the remedial measures that should be taken to reach baseline condition or similar level would be disproportionate to the environmental benefits to be obtained'. No guidance is provided on how to determine when this is the case; it is up to the Member States to decide⁶⁸.

In the US a comparable set of criteria is used to not only select appropriate restoration options, but also to determine whether a certain restoration option could happen at reasonable cost. In the US it is expected that if all listed factors are considered, that this will constitute a quantitative cost-benefit analysis and ensure that a cost-effective alternative is selected.⁶⁹ It is thought that this approach will protect the responsible party 'against selection of an inappropriately costly alternative' and ensures that the preferred actions are 'commensurate with the value of the natural resource losses'.⁷⁰

2.5 Relationship with the Wild Birds and Habitats Directives and the Environmental Impact Assessment Directive

Given the above it is obvious that the ELD seeks to connect with the Wild Birds and Habitats Directives and some other Directives. This is also clear from paragraph 5 of the preamble of the ELD regarding the correct interpretation and application of the ELD. In this paragraph it is noted that 'when the concept in question derives from other relevant Community legislation, the same definition should be used so that common criteria can be used and uniform application promoted'. The most relevant Directives here are the Wild Birds and Habitats Directives and the Water Framework Directive, since the ELD not only aims at protecting the very same natural resources as protected under these Directives, it also uses some of their key terms for determining the scope of application of the ELD. An example here is Article 2 of the ELD, which by referring to terms used in these Directives, stipulates when damage to the natural resources covered is recoverable.

⁶⁶ Annex II, para. 3.2.2.

⁶⁷ See para 1.3.1 of Annex II.

⁶⁸ It is noted that the WFD also uses the term 'disproportionate costs' (see e.g. Articles 4(a)(ii), 5(a) and 7(d) WFD)). Although in the provisions mentioned some guidance is provided on how to determine whether or not a certain measure is considered to be disproportionately expensive (for instance, reference to the time involved to complete a certain improvement) the WFD does not include a specific standard or numeric ratio.

⁶⁹ 61 Fed. Reg. 490 (1996).

⁷⁰ 61 Fed.Reg. 454, 490 (1996).

Therefore, given the above, it is obvious that the EC (guidance) documents on the application of the Wild Birds and Habitats Directives and the Water Framework Directive are relevant to the ELD; these documents are referred to in this report on a regular basis⁷¹, as is the case law of the European Court of Justice (ECJ) and of the courts of the Member States regarding the application of these Directives. It is however to be noted that to the author's knowledge there is so far little case law that is relevant to this report (at least not from the ECJ). There is a substantial amount of case law on the interpretation of the term 'significant effect' in Article 6(3) of the Habitats Directive⁷². It is likely that although such case law will play a role in the application of the ELD, it is of little relevance to the REMEDE project. Case law on the application of Article 6(4) of the Habitats Directive (and specifically that part of this provision that deals with the types of 'compensatory measures' to be taken when in spite of the negative implications for the Natura 2000 site, a certain (infrastructural) plan or project is carried out (see further 3.2.1)⁷³) would have been relevant to REMEDE; however, no relevant case law is available that addresses this issue.

The lack of case law can be explained by the fact that Member States are behind schedule in implementing of the Wild Birds and Habitats Directives, especially in the designation of Natura 2000 sites⁷⁴. Furthermore, there is no case law relating to the WFD relevant to this report, unsurprisingly as Member States are currently in the process of implementing the Water Framework Directive.

Further discussion on the Wild Birds and Habitats, and Environmental Impact Assessment Directives is provided in Sections 3 and 4, respectively.

⁷¹ See *i.e.* the documents made available at: <ec.europa.eu/environment/nature/home.htm> and <ec.europa.eu/environment/water/>

⁷² See for instance Case C-127/02, *Waddenvereniging and Vogelsbeschermingvereniging v. Staatssecr. van LNV (Kokkelvisserij)* [2004] ECR I-7405.

⁷³ Not meant here is the case law regarding the derogation mechanism in Art. 6(3) and (4) of the Habitats Directive following a negative assessment of a certain plan or project. There is substantial amount of case law of that aspect of the Habitats Directive.

⁷⁴ Apart thereof it appears that some Member States have failed to fully transpose some of the provisions of these Directives. See for instance Case C 98/03, *Commission v. Germany* [2006] ECR I-53. See further Backes, Freriks, Nijmeijer (2006).

3. The Wild Birds and Habitats Directives

3.1 Introduction

As noted earlier, the main objective of both the Wild Birds and Habitats Directives is the conservation of biodiversity. In that respect Member States have to take, among other measures, appropriate steps to avoid the deterioration of natural habitats in Natura 2000 sites, as well as the habitats of species and disturbance of the species for which the areas have been designated (in so far as such disturbance could be significant in relation to the objectives of this Directive)⁷⁵. For this report the most relevant provisions of both Directives are Article 4(4) of the Wild Birds Directive and Articles 6(4) and 7 of the Habitats Directive.

Under Article 4 of the Wild Birds Directive, the Member States - as was noted earlier - have to designate special protection areas (SPAs) for the bird species listed in Annex I of the Directive, and for regularly occurring migratory species not listed therein. Article 4(4) of the Wild Birds Directive stipulates that with regard to the SPAs, Member States have to take 'appropriate steps to avoid pollution or deterioration of habitats or any disturbances affecting the birds, in so far as these would be significant having regard to the objectives of this article'. Article 7 of the Habitats Directive stipulates that the obligations arising under Article 6(2), (3) and (4) of the Habitats Directive replace the obligations arising under Article 4(4) of the Wild Birds Directive.

Article 6 of the Habitats Directive is intended to ensure that the natural wealth in the Natura 2000 network - i.e. in the SPAs as well as the protection areas to be designated under the Habitats Directive (SCAs) - remains intact. To this end, Article 6(1) of the Habitats Directive provides for the taking of conservation measures. In general terms, Article 6(2) requires that Member States take the appropriate steps to avoid the deterioration of natural habitats and the habitats of species, as well as the disturbance of the species for which the areas have been designated in the Natura 2000 areas, insofar as such disturbance could be significant in relation to the objectives of the Habitats Directive.

Articles 6(3) and (4) of the Habitats Directive lay down particular rules with regards to plans and projects that, if realised, may have significant effects on Natura 200 sites. Article 6(3) of the Habitats Directive establishes a procedure intended to ensure, by means of a preliminary examination - a kind of environmental impact assessment - that a plan or project which is not directly connected with or necessary to the management of the Natura 2000 site concerned, but likely to have a significant effect on it, is authorised only to the extent that it will not adversely affect the integrity of that site⁷⁶.

Under Article 6(4), adverse effects on the integrity of sites are, by way of exception, permitted under certain circumstances, however, only if 'compensatory measures' are taken⁷⁷. For REMEDE, especially the latter is relevant⁷⁸.

⁷⁵ See Art. 4(4) of the Wild Birds Directive and Art. 6(2) of the Habitats Directive.

⁷⁶ See further on the application of Art. 6(3) of the Habitats Directive, Sadeleer (2005), p. 242-247 (with references to case law).

⁷⁷ Art. 6(4) reads as follows: "If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

"Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial

3.2 Compensatory measures under Article 6(4) of the Habitats Directive

Article 6(4) of the Habitats Directive sets out safeguards for plans or projects which, in spite of the negative assessment of the implications thereof for a Natura 2000 site, must nevertheless be carried out for imperative reasons of overriding public interest. A relevant safeguard here is that if such a plan or project is to be carried out, the Member State concerned is required 'to take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected' (Article 6(4)).

The following paragraph will analyze this provision in more detail. However, before entering this discussion, it is to be noted that the 'compensatory measures' of Article 6(4) of the Habitats Directive are to be distinguished from 'compensatory remediation measures' of the ELD. The two terms do not have the same meaning and focus on different types of remediation measures (or at least have different objectives). Since the purpose of the compensatory measures of Article 6(4) of the Habitats Directive is to provide a similar level of natural resources and services at an alternative site, or at a part of the original site not impacted by the project concerned, the 'compensatory measures' of the Habitats Directive are the best comparable with the 'complementary remediation measures' of the ELD. Though, there are - as will be shown - differences (see para. 3.2.1).

Also relevant is the fact that by adopting mitigation measures, Member State may limit the extent of the compensatory measures that needs to be taken under Article 6(4), or may even avoid such measures needing to be taken⁷⁹. Mitigation measures are aimed at 'minimising or even cancelling the negative impact of a plan or project, during or after its completion'⁸⁰. Examples of such measures are stopping building or other activities during the breeding season of a particular species, or the use of a specific dredge at a distance from the shore in order not to affect a fragile habitat. Since mitigation measures are to be distinguished from compensatory measures, REMEDE will not deal with such measures⁸¹. However, mitigation measures are relevant for the individual case, as well-implemented mitigation measures may limit the extent of the necessary compensatory measures by reducing the damaging effects of a plan or project on Natura 2000 sites.

3.2.1 Objectives of the compensatory measures of Article 6(4) of the Habitats Directive

Art. 6(4) of the Habitats Directive stipulates that if in spite of a negative assessment of the implications for the Natura 2000 site a plan or project must nevertheless be carried out, the Member State is required to 'take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected'.

The Habitats Directive itself does not provide a definition of the term 'compensatory measures', nor is any guidance included on, for instance, the type of measures that can be taken, or the selection of various options, if available. However, some guidance is provided by the European Commission's document *Managing Natura 2000 Sites*. According to this document, compensatory measures should aim to offset the negative impact of a project and should provide compensation corresponding precisely to the negative effects on the species or habitat concerned⁸². In other words, the compensatory measures need to address 'in comparable proportions, the habitats and species negatively affected' and should provide 'functions

consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest."

⁷⁸ See on the application of Art. 6 (3) and (4) of the Habitats Directive, European Commission (2002), p. 17 et seq.

⁷⁹ European Commission (2000), para. 4.5.2 and 5.4.1 and European Commission (2002), p. 14.

⁸⁰ Ibid.

⁸¹ See Annex I to the EC Contract, p. 7.

⁸² European Commission (2000), para. 5.4.1.

comparable to those which had justified the selection criteria of the original site⁸³. Furthermore, it is required that compensatory measures are taken in the same biogeographical region⁸⁴. It is thereby to be noted that it does not seem to be required to create the new habitat in the Member State the impacted habitat is located in. As long as the overall coherence of Natura 2000 sites is maintained, the measures may also be taken outside the Member State in another Member State, for instance the neighbouring one⁸⁵.

Examples of compensatory measures are:

- the recreation of a habitat on a new or enlarged site, to be incorporated into Natura 2000;
- the biological improvement or enhancement of a (substandard) habitat on part of the site or on another Natura 2000 site, proportional to the loss due to the project; and
- in exceptional cases, proposing a new site under the Habitats Directive⁸⁶.

Since Member States are obliged under Article 6(4) of the Habitats Directive to inform the European Commission of the compensatory measures to be adopted, there is some information available on the types of compensatory measures considered by Member States, and whether or not the measures proposed were considered appropriate and acceptable by the Commission given the objectives of the Wild Birds and Habitats Directive. Because of the limited information provided in these documents and technical nature of the information provided, no further description is given of the types of compensatory measures proposed⁸⁷.

3.2.2 *Interim losses*

The guidance document *Managing Natura 2000 Sites* notes that the results of the compensatory measures need to be operational, at the same time as the damage is caused to the site where the project is realized and the damage occurs⁸⁸. If the Member States act in conformity with this rule and the compensation measures taken are sufficient to offset the negative effects of a project on the species and natural resources concerned, no interim losses will be suffered⁸⁹.

However, *Managing Natura 2000 Sites* allows Member States under certain conditions to take compensatory measures simultaneously to the realization of the project⁹⁰. This has been affirmed also by the European Commission in one of its opinions regarding the construction of a project through a Natura 2000 site⁹¹. A consequence hereof is that since the compensatory measures are not in place before construction starts and the Natura 2000 site is irreversibly affected, interim losses will be suffered. Although the issue is not (clearly) addressed in *Managing Natura 2000 Sites* or other EC documents regarding the application of Article 6(4) of the Habitats Directive, it seems that one way to compensate for such interim losses is to

⁸³ Ibid. Para. 5.4.2 - 5.4.3. See also European Commission (2002), p. 43.

⁸⁴ Ibid.

⁸⁵ In *Natura 2000* (2000), p.4, the European Commission notes the compensatory measures to be taken should meet certain conditions, one of them that such measures 'concern the same biological region in the same Member State'. This seems in contradiction with EC's document *Managing Natura 2000 Sites*.

⁸⁶ Ibid.

⁸⁷ See for instance the Opinion of the Commission of 24 April 2003, derived upon request of Germany and concerning the approval of an operational master plan of Prosper Haniel Colliery; Opinion of the Commission of 19 April 2000, derived upon request of Germany and concerning the extension of the Site of Daimler Chrysler Aerospace GmbH.

⁸⁸ See *Natura 2000* (2000), p. 4.

⁸⁹ As a matter of fact it should be noted that the promoter of the plan or projects has to bear the costs of the compensatory measures, in line with the 'polluter pays' principle.

⁹⁰ European Commission 2000, para 5.4.2.

⁹¹ See Commission Opinion of 18 December 1995 on the intersection of the Peen Valley (Germany) by the planned A 20 motorway, OJ 1997 L6/14.

'overcompensate' for the damage caused⁹². An example thereof is the creation of a larger habitat than the one that is lost⁹³. No guidance is provided in *Managing Natura 2000 Sites* or other EC documents on how to determine the nature and extent of the extra measures to be taken. Case law on this part of Article 6(4) of the Habitats Directive is also lacking.

It is important to note that taken the objectives of the Wild Birds and Habitats Directives (i.e. primarily nature protection and conservation) the extra compensatory measures to be taken, do not aim - at least not directly - at compensating the interim loss of services to humans suffered due to the fact that the compensatory measures were not in place before the Natura 2000 site was damaged. This is an important difference with the ELD as this Directive clearly stipulates that such losses are to be taken into account (see Article 2(13) and paragraph 1(d) of Annex II).

⁹² This term is used in a PowerPoint presentation of Alexandra Vakrou of DG-Environment of the European Commission 'Implementation of Article 6 of the Habitats Directive. Article 6(4) Guidance'. Round Table Conference on Biodiversity Offsets, Paris, 6 July 2006.

⁹³ See for instance PMR (2006), p. 28.

4. The Environmental Impact Assessment Directive

4.1 Introduction

The EIA Directive (as amended) requires that Member States adopt measures to ensure that projects likely to have significant effects on the environment by virtue, *inter alia*, of their nature, size and location, are subject to development consents and an assessment of their environmental effects. The objective of an EIA is to identify and describe the environmental impacts of projects and to assess whether prevention or mitigation is appropriate. This should aid the public authorities in the decision-making process. Article 4 and the Annexes I and II of the Directive specify the types of projects that are subject to an environmental impact assessment⁹⁴. Also related in this respect is the Strategic Environment Assessment (SEA) Directive which is discussed in Section 4.3.

4.2 Measures to offset any significant adverse effects to the environment

According to Article 3 of the EIA Directive, the environmental impact assessment has to identify, describe and assess in an appropriate manner the direct and indirect effects of a project on *inter alia* human beings, fauna and flora. Article 5(3) of this Directive requires the developer of a project to submit to the public authorities, in addition to other information, an outline of the main alternatives studied by the developer and an indication of the main reasons for his choice, taking into account the environmental effects. In addition, the developer is required to submit 'a description of the measures envisaged [...] to prevent, reduce and where possible offset any significant adverse effects to the environment'⁹⁵. This makes Article 5(3), together with Annex VI of the EIA Directive, relevant to ELD and hence REMEDE. The question is, however, what the objectives are of the measures to be envisaged under this Directive to offset any significant adverse effects on the environment of a certain project, and to what extent the toolkit developed by REMEDE is likely to be useful for the EIA Directive.

Before exploring this issue further, it should be noted that projects that are subject to an EIA may also require an assessment pursuant to Articles 6 and 7 of the Habitats Directive⁹⁶. The assessment under the Habitats Directive is, as was noted earlier, a test to certify that a plan does not adversely affect the integrity of the Natura 2000 site concerned. And, if in spite of the negative assessment of the implications for the Natura 2000 site a plan or project must nevertheless be carried out, the Member State is required to undertake compensatory measures (Article 6(4) of the Habitats Directive). As is noted in Section 3.2 of this report, there is a framework available that guides the Member State and the developer in identifying the appropriate compensatory measures.

With regard to projects that do not require an assessment pursuant to the Habitats Directive, but that may have an impact on habitats and species covered by the ELD, it is less clear what can be expected from a developer in terms of compensating an anticipated damage to these natural resources⁹⁷. This becomes especially relevant when despite the mitigation measures

⁹⁴ Annex I includes the public and private projects subject to a mandatory assessment process. With regard to the projects listed in Annex II, the Member States shall determine through a case-by-case examination or thresholds or criteria set by the Member State whether or not the project is subject to an assessment.

⁹⁵ See Art. 5(3) and Annex IV of the EIA Directive.

⁹⁶ See Soppe (2005), 243.

⁹⁷ Relevant here are, for instance, the wild flora and fauna species covered by Article 16 of the Habitats Directive and the habitats and species which are not protected under EU law, but that have been brought under the scope of the ELD by a Member State (see Article 2(3)(c) of the ELD).

considered, it appears to be impossible to fully mitigate the environmental damage foreseen. In that case, according to Article 5(3) and Annex VI of the EIA Directive, measures need to be envisaged to offset the residual damage to the environment of the project (provided these effects can be considered significant)⁹⁸. Surprisingly, there is not much guidance available in the EIA Directive, its Annexes or the EC guidance documents on the type and objectives of such measures⁹⁹.

From the wording of the Dutch law that implements the EIA Directive, the Environmental Management Act, it appears that the compensatory measures envisaged can be taken elsewhere¹⁰⁰. Furthermore, with regard to cases in which it is foreseen that a significant damage will be caused to protected species and habitats (other than those protected under the Wild Birds and Habitats Directives, and for which Article 6 of the Habitats Directive is applicable), the Dutch 2006 Memorandum on Spatial Planning provides a number of more detailed conditions that need to be fulfilled when identifying the necessary compensatory measures¹⁰¹. It is stipulated, for instance, that if it is to be considered to compensate for an anticipated loss of natural habitat, a site on which a new habitat is recreated needs to be of comparable proportion, and with functions comparable to, those of the original site. In addition, there is a preference for recreating the new site as closely as possible to the impacted site. If it proves impossible to replace the impacted site with a comparable site, a sum of money is paid to a National Green Fund, whereby the money is earmarked for the benefit of that specific new site. The predecessor of the Memorandum on Spatial Planning, the Dutch Structural Plan for Rural Areas, stipulated the amount of money to be paid in such cases, taking into account the number of years it is expected to take before the new site has comparable quality to the original site¹⁰². No data are available at the moment regarding the practice in other Member States.

Given the above, it could be that the toolkit to be developed under REMEDE will prove to be helpful when determining the nature and extent of the compensatory measures to be taken. However, unlike both the ELD and the Habitats Directive, there is not much information available on what the precise objectives of these measures should be. The Dutch Memorandum on Spatial Planning provides some guidance, but it is not entirely certain that other Member States use the same starting points. It seems likely that this will be the case given the objective of the EIA Directive and nature protection policy in general, but it is not certain.

4.3 SEA Directive

Somewhat disappointingly, the more recently enacted Directive 2001/42/EC on the Assessment of the Effects of Certain Plans and Programmes on the Environment (SEA) does not provide much clarity on the objectives of the measures to be envisaged to offset the likely significant effects on the environment of a certain plan or programme¹⁰³. The Directive also stipulates

⁹⁸ See also Art. 7.10(4) of the Dutch Environmental Management Act.

⁹⁹ As noted earlier this is different in cases where an assessment is to be made under Art. 6(3) of the Habitats Directive. See further on the

¹⁰⁰ This follows from the wording of Art. 7.10(4) of the Dutch Environmental Management Act.

¹⁰¹ Memorandum on Spatial Planning (2006), p. 116-117.

¹⁰² According to the Dutch Structural Plan for Rural Areas, TK 1992-1993, 22 880, no 5, and some related documents, in cases where it is expected to take less than 25 years for the quality of the original and new site to be comparable, the responsible party has to pay one-third of the cost needed to create the new site. Where it will take more than 25 years, but less than 100, two-thirds of the original costs must be paid. Although mentioned as a separate category, it is not entirely clear how much is to be paid when it will take more than 100 years to replace the original site. The compensation payable is deposited in a specially established fund, which will be earmarked and used for the initial management (*aanloopbeheer*) of the new site. The above rules apply to *ex ante* situations only. See Brans (2001), p. 290-291.

¹⁰³ OJ 2001 L197/30. The text of the Directive can be found on <ec.europa.eu/environment/eia/home.htm>

that under certain conditions an environmental assessment is to be undertaken. Furthermore, Article 5(1) of this Directive stipulates that the assessment report should identify, describe and evaluate the likely significant effects on the environment of the plan or programme concerned and its reasonable alternatives. Annex I gives further provisions on which information must be provided concerning these effects. It specifies that the report should provide information regarding 'the measures envisaged to [...] reduce and as fully as possible offset significant effects on the environment of implementing the plan.' However, no further guidance is provided on the precise goal of the measures envisaged to as fully as possible offset significant impacts on the environment, nor on how the extent of the measures is to be determined.

With regard to this Directive it is not clear at the moment what adjustments to the REMEDE toolkit would be necessary to make it fit for the application of the SEA Directive. This will be investigated further but the focus of the REMEDE toolkit remains the ELD.

5. Conclusions

Given the above, it seems safe to conclude that both Annex II of the ELD and the REMEDE toolkit would be useful in determining the type of measures to be taken under Article 6(4) of the Habitats Directive to compensate for the implications of a certain project on a Natura 2000 site. However, there are differences between the ELD and the Habitats Directive. An important difference concerns the objective of the compensatory measures to be taken under Article 6(4) of the Habitats Directive. Since the objective of the Habitats Directive (and of the Wild Birds Directive) is primarily nature protection and conservation, the measures do not aim - at least not directly - at compensating the interim loss of services to humans suffered (due to the fact that the compensatory measures to be taken under Article 6(4) of the Habitats Directive were not in place before the Natura 2000 site was impacted by the project). This is an important difference with the ELD, since such losses are to be considered under the ELD even though neither the ELD nor its Annex II provides much guidance on this point and are much less specific than for instance the NRDA-regulations of the US Oil Pollution Act (Sections 2.4.2 and 3.2.2).

More generally, it is noted that as a general rule the compensatory measures to be taken under Article 6(4) of the Habitats Directive have to be operational at the same time as the damage is caused to the site where the project is realised. Although deviation from this is allowed, if acted in conformity with this rule, interim losses (if any) will be limited (Section 3.2.2). It is highly unlikely that in the case where an incident covered by the ELD occurs, and causes a significant damage to the natural resources covered by the ELD, no interim losses will be suffered. The ELD is an *ex post* regime, unlike the Habitats Directive.

Annex II of the ELD and the REMEDE toolkit may also prove to be helpful to the EIA Directive. However, it is to be noted it is less clear what the precise objectives are of the measures to be envisaged under the EIA to offset a significant damage to protected species and habitats (Section 4.2). This is, however, different for natural resources covered by the Wild Birds and Habitats Directives and for which Article 6 of the Habitats Directive is applicable (Section 3.2.1).

Regarding the REMEDE toolkit itself, with regard to some important issues the ELD (and the other related Directives) do not contain clear provisions, and in some cases lack clear guidance. This is for instance the case with the following:

- The criteria to be used to prevent a responsible party being held liable for unreasonably costly restoration measures, and the weighing of these criteria (section 2.4.3). This is also the case with the compensatory measures to be taken under the ELD;
- It is not entirely clear to what extent lost services to humans are to be taken into account. ELD and its Annex II clearly stipulate that such losses need to be considered. However, neither the ELD itself nor its legislative history stipulate the extent to which lost human services are to be taken into account when developing remediation options, nor whether or not detailed site specific studies are necessary to determine the extent of such losses (Section 2.4.2); and
- ELD does not provide any detailed guidance on how to determine the extent of the primary, complementary and compensatory measures to be taken (scaling). It describes in general terms the methods that are available in this respect and the preference the legislator has for resource-to-resource or service-to-service approaches (Section 2.4.2(a)), but no further guidance is available.

The toolkit that is to be developed by REMEDE should address these issues in more detail and should provide a framework to guide the public authorities and the potential responsible

parties in determining the type of remediation measures to be taken to offset a significant damage to the habitats and flora and fauna species covered by the ELD.

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