

Assessment of plans and projects significantly affecting Natura 2000 sites

Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC

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ANNEX

1. INTRODUCTION

1.1. Purpose and nature of the document

This document has been produced to provide non-mandatory methodological guidance to carry out or review the assessments required under Article 6(3) and (4) of the Habitats Directive¹ (referred to here as the Article 6 assessments). These assessments are required where a project or plan may give rise to significant effects upon a Natura 2000 site².

This guidance document is an update of the "Methodological guidance on the provisions of Article 6 (3) and (4) of the Habitats Directive 92/43/EEC (European Commission, 2002)³, as foreseen under Action 1 of the Action Plan for Nature, People and the Economy⁴. It is based upon a review of existing literature and guidance in the EU, the experience gathered through case study material where assessments similar to those required by the directive have been carried out, as well as feedback and suggestions form the consultation with EU Member States authorities and relevant stakeholders.

The guidance is designed principally for use by developers, consultants, site managers, practitioners, competent authorities and national agencies in the EU Member States and in the candidate countries. It is hoped that it will also be of interest to other organisations involved in the management of Natura 2000 sites.

This guidance must be read in conjunction with the directives and national legislation, and within the context of the advice set out in the Commission notice on "Managing Natura 2000 sites: The provisions of Article 6 of the Habitats Directive 92/43/EEC" (referred to in this guidance as MN2000). MN2000 is the starting point for the interpretation of the key terms and phrases contained in the Habitats Directive and nothing in this guidance document should be seen as overriding or replacing the interpretations provided in MN2000. To facilitate reading, relevant quotations from MN2000 are included in this document.

Furthermore, this guidance should not be read as imposing or suggesting any procedural requirements for the implementation of the Habitats Directive. Its use is

¹ Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (OJ L 206, 22.7.1992, p. 7).

² For the purposes of Article 6 assessments, Natura 2000 sites are those identified as Sites of Community Importance or Special Areas of Conservation under the Habitats Directive 92/43/EEC or classified as special protection areas (SPAs) under the Birds Directive 2009/147/EC.

³http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/natura 2000 assess e n.pdf

⁴ http://ec.europa.eu/environment/nature/legislation/fitness_check/action_plan/index_en.htm

⁵ European Commission, 2018. Conmission notice "Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC". Brussels, 21.11.2018 C(2018) 7621 final. Available at: http://ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm

optional and flexible since, under the principle of subsidiarity, it is for individual Member States to determine the procedural requirements deriving from the directive. It is the responsibility of the competent authority in each Member State to make the key decisions within the Article 6(3) and (4) assessments. In this guidance document, the term 'assessment' is used as in environmental impact assessment (SEA and EIA). That is, it describes the whole process by which information is gathered by project or plan proponents, relevant authorities, nature conservation and other agencies, non-governmental organisations (NGOs), and the public and provided to the competent authority for consideration and evaluation. The competent authority then determines the outcomes of the assessment and reaches a decision. This recognises that the assessments required under Article 6(3) and 6(4) will rely on the gathering of reliable information and data by a variety of stakeholders as well as consultation between them.

1.2. Structure

This document is made up of three main parts.

- Following this introduction, the general approach and principles underpinning the guidance are explained. The flow chart from MN2000 is included to depict how the Article 6(3) and 6(4) assessments are structured. The flow chart indicates how the various stages of assessment suggested in this guidance relate to the requirements of Article 6(3) and (4).
- The next section contains the main stage-by-stage methodological guidance. Each stage contains methods and tools, examples and suggestions on how the various assessments should be completed. The approach used in this guidance is based on the use of checklists and step by step instructions (implementation procedures) and these are set out within the stages of the assessment. It must however be noticed that these checklists are illustrative and cannot be comprehensive.
- Annex 1 provides examples of methods and further elements of guidance and tools for the implementation of Article 6(3) and 6(4) procedures (e.g. checklists, formats, etc.).

2. GENERAL APPROACH AND PRINCIPLES

2.1 The stages of the Art. 6(3) and 6(4) procedures

The starting point for the development of this guidance is the Habitats Directive itself. Article 6, paragraphs (3) and (4) state:

- "3. Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.
- 4. 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 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 consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest."

Article 6(3) & (4) defines a *step-wise procedure* where plans or projects are considered. Three main stages are identified and will be addressed in this guidance:

- **Stage one: screening**. The first part of the procedure consists of a pre-assessment stage ('screening') to determine whether, firstly, the plan or project is directly connected with or necessary to the management of the Natura 2000 site, and secondly, if that is not the case, whether it is likely to have a significant effect on the site; it is governed by Article 6(3), first sentence.
- Stage two: the Appropriate Assessment. The second part of the procedure, governed by Article 6(3), second sentence, relates to the appropriate assessment and the decision of the competent national authorities. This assessment must determine whether the project or plan, either alone or in combination with other projects or plans, can have an adverse effect on the integrity of the Natura 2000 site. Additionally, where there are adverse impacts, an assessment of the potential mitigation measures must be included.
- Stage three: derogation from Article 6(3) under certain conditions. A third part of the procedure governed by Article 6(4) comes into play if, despite a negative assessment, it is proposed not to reject a plan or project but to give it further consideration. In this case Article 6(4) allows for derogations from Article 6(3) under certain conditions, which comprise the absence of alternative solutions, and

the existence of Imperative Reasons of Overriding Public Interest (IROPI) to carry out the project, and demand the adoption of compensatory measures.

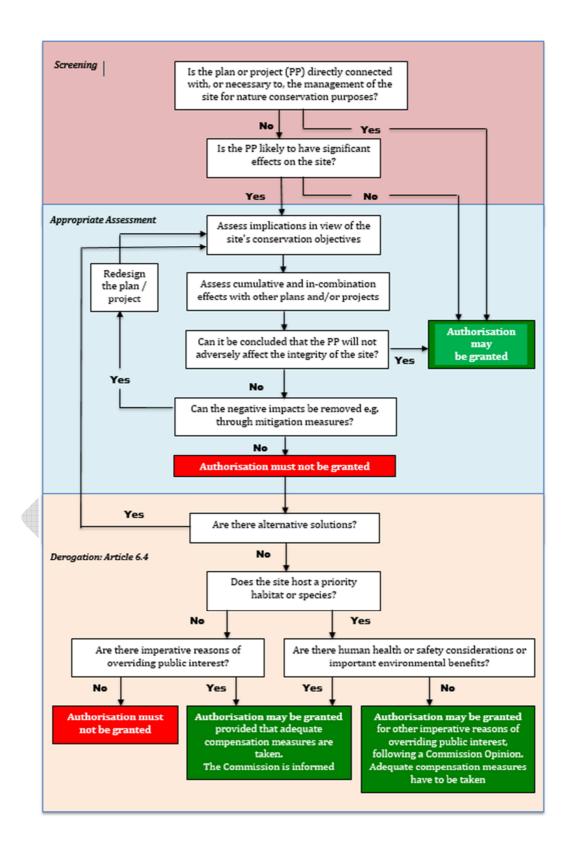
The implementation of the procedure outlined and the extent to which it applies depend on several factors, and in the sequence of stages, each stage is influenced by the previous one. The order in which the stages are followed is therefore essential for the correct application of Article 6(3). A simplified flow chart of this procedure is presented below.

Clarification of the concepts of Article 6(3) and 6(4) is provided in the Commission interpretation document on the provisions of Article 6 of the Habitats Directive (MN2000). Some clarifications of key concepts are included in the corresponding sections of this methodological guidance, in order to improve understanding of the provisions at stake



Flow chart of the Article 6(3) and (4) procedure (from MN2000) in relation to the stages of the guidance

CONSIDERATION OF PLANS AND PROJECTS AFFECTING NATURA 2000 SITES



2.2. Approach to decision making

The diversity of habitats, species, projects and plans that exist within the European Union, and the variations between national regulations, require the approach to the Article 6(3) and 6(4) assessments to be robust and yet flexible. A wide range of perspectives exists throughout the EU on the importance or value of sites and projects. For these reasons, the decisions made through the application of the methodology should attempt to be as transparent and objective as possible and at the same time should reflect the value judgements inherent in any environmental assessment.

Implicit in the Habitats Directive is the application of the **precautionary principle**, which requires that the conservation objectives of Natura 2000 should prevail where there is reasonable scientific doubt as to the absence of adverse effects. This means that the emphasis for assessment should be on objectively demonstrating, with supporting evidence, that:

- there will be <u>no likely significant</u> effects on a Natura 2000 site (Stage One: Screening); or
- there will be <u>no adverse effects on the integrity of a Natura 2000 site</u> (Stage Two: Appropriate Assessment); or
- there is an <u>absence of alternatives</u> to the project or plan that is likely to have adverse effects on the integrity of a Natura 2000 site, there are <u>imperative</u> <u>reasons of overriding public interest</u> to carry out the project, and there are <u>compensation measures</u> which maintain or enhance the overall coherence of Natura 2000 (Stage Three: derogation procedure).

Box 1. Making a decision on the basis of the appropriate assessment

It lies with the competent national authorities, in the light of the conclusions of the Appropriate Assessment of the implications of a plan or project for the Natura 2000 site concerned, to approve the plan or project. This can be done only after they have made certain that the proposed plan or project will not adversely affect the integrity of the site. That is the case where no reasonable scientific doubt remains as to the absence of such effects⁶.

The focus is therefore on demonstrating the absence of adverse effects rather than their presence, reflecting the precautionary principle⁷. The Appropriate Assessment must therefore be sufficiently detailed and reasoned to demonstrate the absence of adverse effects, in light of the best existing scientific knowledge in the field⁸.

⁶ Case C-127/02, para. 57.

⁷ Case C-157/96 para. 63.

⁸ Case C-127/02 para. 61.

3. THE ARTICLE 6(3) AND (4) METHODOLOGY

3.1. Stage One: Screening

3.1.1. Introduction

This stage examines the **likely effects** of a project or plan, either alone or in combination with other projects or plans, upon a Natura 2000 site and considers whether it can be concluded that these effects will not be significant.

The European Commission (MN2000) supports a broad interpretation of the terms "plan" and "project" in the implementation of article 6(3).

A **project** can involve construction works, installations and other interventions in the natural environment including regular activities aimed at utilising natural resources. The term **plan** has also, for the purpose of Article 6(3), a potentially very broad meaning, including land-use or spatial plans and sectoral plans (e.g. for transport, energy, waste management, water management, forest management, etc.).

The Directive does not circumscribe the scope of either "plan" or a "project" to particular categories of either. Instead, the key limiting factor is whether or not they are **likely to have a significant effect on a site**.

See further details about the interpretation of plans and projects in the context of article 6(3) in MN2000 – sections 4.4.1 & 4.4.2.

Normally a screening assessment should be seen as a simple assessment to check whether a full appropriate assessment is needed. The assessment is usually based on the best available information and/or, when available, expert opinion, rather than require detailed new evidence to be gathered. Where sufficient information does not exist or is not readily available, before a decision can be made, further information may be requested, supplemented by field visits by conservation authorities if necessary.

There are several benefits of early screening:

- Early consultation between project promoters, competent authorities and other stakeholders who possess relevant data /expertise can make available best information to help determine the likelihood of significant effects.
- Screening at an early stage can reduce the risk of delays and added cost later on when determining development consent applications. It enables the proponent of a plan or project to consider next steps required without investing a significant amount of time and money
- Early screening allows to identify potential risks, both to Natura 2000 sites and to the plan/project itself, early on and to take appropriate steps to either (a) choose an alternative location or design for the plan/project to avoid risk of damage or (b) carry out effective screening and scoping. Indeed, although key

aspects of the initial planning should be clear, these should leave room for adjusting the plan or project.

To complete the screening stage, it will be necessary to gather information from a variety of sources. It may often be possible to make the screening decision using published material and consultation with relevant nature conservation agencies.

Making information readily available and easily accessible, and facilitating the dialogue and cooperation with nature authorities are of key importance to conduct a proper screening without having to make too much effort or a disproportionate work at this first stage of the assessment.

Table 1. Differences between the screening stage and the Appropriate Assessment

Screening	Appropriate Assessment			
Evaluates, if significant negative effects on	Assesses the effects on the Natura 2000 site in			
a Natura 2000 site are likely as a result of	view of its conservation objectives and			
the plan or project implementation	determines whether adverse effects on the			
	integrity o the site will be caused by the implementation of the plan or project			
If significant effects cannot be excluded	Project can be permitted only if adverse			
with certainty, an Appropriate Assessment	effects on the Natura 2000 site integrity can			
is necessary.	be excluded			
Can be based on existing data, available	Requires detailed assessment, often field			
knowledge and experience and expert	surveys and expert advice. and consideration			
opinion.	of the individual case by experts			
Mitigation measures are not considered in	Mitigation measures and their effectiveness to			
the Screening (as their effectiveness is	eliminate or reduce the adverse effects are			
difficult to ascertain)	considered in the assessment.			

The screening assessment is aimed at determining whether there is a possibility that the plan or project affects any Natura 2000 site. The approach to screening may differ somewhat for plans and projects, depending on the scale and the likely effects. It may be carried out in four steps:

- 1. Determining whether the project or plan is directly connected with or necessary to the management of the site.
- 2. Identifying what (if any) Natura 2000 sites may be affected, considering the potential effects of the plan or project, alone or in combination with other plans or projects.
- 3. Assessing whether likely significant effects on the site can be ruled out.

4. Conclusions

In the following sections, these four steps will be considered in more detailed, as well as the outcome of the screening and its documentation, and further considerations especially on the role of early dialogue and consultation.

3.1.2. Step One: determine whether the project or plan is directly connected with or necessary to the management of the site

This step will determine whether the project or plan is connected with or necessary for the "conservation" management of a site, i.e. to achieve its conservation objectives.

The term 'management' is to be treated as referring to the 'conservation' management of a site, i.e. it is to be seen in the sense in which it is used in Article 6(1). Thus, if an activity is directly connected with and necessary for fulfilling the conservation objectives, it is exempted from the requirement for an assessment.

Plans or projects directly connected with or necessary to the conservation management of Natura 2000 sites should generally be excluded from the provisions of Article 6(3), but their non-conservation components may still require an assessment.

See further details in MN2000 – section 3.4.3

A non-conservation component of a plan or project could be for example commercial timber harvesting that form part of a conservation management plan for a woodland designated as Special Area of Conservation. In as much as this commercial activity is not necessary to the site's conservation management, it should be considered for an appropriate assessment⁹.

There may also be circumstances where a plan or project directly connected with or necessary for the management of one site may affect another site. For example, in order to improve the flooding regime of one site, it may be proposed to build a barrier in another site, with a possible significant adverse effect on the latter. In such a case, the plan or project should be the subject of an assessment as regards the affected site.

Box 2. Verification of whether a project or plan is directly connected with or necessary to the management of the site 2000 site

- It is included in the Management Plan of the Natura 2000 site affected or proposed as part of other statutory, administrative or contractual measures required for maintaining and restoring (if necessary) the site, its habitat types and species in good state of conservation.
- By default, there is a statement of the managing body of the Natura 2000 site that
 the project is directly related to the management of the site or is necessary for it,
 being clearly related to maintenance or improvement of the conservation status of
 some habitat types or target species in the site.

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⁹ The technical report "Natura 2000 and Forests" (2015) (chapter 4.6) provides exemplary cases on how to avoid conflicting goals between each Forest- and Natura 2000 management: http://ec.europa.eu/environment/nature/natura2000/management/docs/Final%20Guide%20N2000%20%20Forests%20Part%20I-II-Annexes.pdf

3.1.3 Step Two. Identify what (if any) Natura 2000 sites may be affected by the project or plan, considering its potential effects

Once it has been excluded that some or all of the elements of the project or plan are necessary for the management of a Natura 2000 site, the identification of Natura 2000 sites that might be affected shall be carried out. This will require to consider all the elements of the project or plan that might have potential effects on any Natura 2000 site(s) in the area under the influence of the project/plan, taking into account the features (species, habitat types) for which the site(s) is(are) designated.

The identification of Natura 2000 sites that might be affected by the plan or project could consider:

- Any Natura 2000 sites within or adjacent to the plan or project area. Natura 2000 sites geographically overlapping with any of the actions or elements of the project in any of its phases.
- Any Natura 2000 sites within the likely zone of impact of the plan or project. Natura 2000 sites located in the surroundings of the project or plan (or at some distance) that could be indirectly affected by the project actions or elements, including the use of natural resources (e.g. water) and various types of waste, discharges or emissions of substances or energy.
- Natura 2000 sites in the surroundings of the project or plan (or at some distance) which host fauna that that can move to the project area and then suffer mortality or other impacts (e.g. loss of feeding areas, home range, etc.).
- Natura 2000 sites whose connectivity or ecological continuity, which is necessary in view of the site conservation objectives, can be affected by the project.

This first identification of the Natura 2000 sites and other landscape elements that may be affected would require only a basic and easily available cartography of:

- Natura 2000 sites
- Elements and actions of the project or plan
- The main elements that can transmit impacts or provide ecological connectivity (hydrographic network, aquifers, vegetation, land uses, etc.).

The distance from the project or plan area at which Natura 2000 sites should be considered will depend on the characteristics of the plan or project and the distance at which its effects can be expected. For sites located downstream along rivers or wetlands fed by aquifers, it may be the case that even at a great distance, a project or plan can affect water flows, fish migration, etc. Impacts on air (pollutants, noise) may also have effects at a long distance.

Some projects or plans that do not directly affect Natura 2000 sites may still have a significant impact if they cause a barrier effect or prevent ecological linkages, e.g. where they affect important elements of the landscape that connect Natura 2000

sites, making regular movements of some sensitive species difficult, or causing the disruption in the continuity of a fluvial ecosystem, a woodland ecosystem, etc.

A) Description of the project or plan and its impact factors

In the identification of potential impacts, it is important to recognise which particular elements of a plan or project are likely to have impacts on a Natura 2000 site, or which elements might act in combination with other plans or projects to such effect.

Relevant project elements include the requirements for the construction process and the operation phase, resource requirements and physical apects — width, depth, duration, etc. For plans, such elements may include details of individual project requirements within the plan, or they may relate to sectors of the plan such as agriculture, fisheries and energy.

In-built components of a project that avoid or reduce adverse impacts from the outset should be considered in the screening. Project promoters often plan projects from the outset to minimise possible impact. The measures thus taken, and their positive impact, should be clearly stated in the project description and clearly distinguished from mitigation measures, which may be subsequently introduced if screening indicates that Appropriate Assessment is nevertheless still required.

The checklist in Box 3 provides some of the main types of project/plan aspects that will normally need to be identified. These aspects are indicative only, as it would be impossible to provide a comprehensive list in this document. For some projects or plans, it may be necessary to identify these parameters separately for the construction, operation and decommissioning phases.

Box 3. Description of the project/plan – examples of parameters to consider in the identification of possible impacts

- Size, scale, area, land-take, etc.
- Physical changes that will result from the project or plan (excavation, piling, dredging, etc.)
- Impact range of varying impact factors (e.g. noise, nitrogen deposition, turbidity)
- Resource requirements (water abstraction, etc.)
- Emissions and waste (disposal to land, water or air)
- Transportation requirements
- Duration of construction, operation, decommissioning, etc.
- Plan implementation period and timing of the main project actions
- Distance from Natura 2000 site or key features of the site
- Other, as appropriate

Where a geographical information system (GIS) is available, it will be very useful in facilitating better understanding of the relationship between the relevant elements in a plan or project and the particular attributes of the Natura 2000 site.

Examples of relevant sources for impact identification are included in the Box 4 below.

Box 4. Relevant sources for impact identification

- The Natura 2000 standard data form for the site
- Site management plans
- Existing data on relevant species and habitat types
- Existing and historical maps
- Land-use and other relevant existing plans
- Existing site survey material
- Existing data on hydrogeology
- Existing data on relevant substances
- Environmental impact assessments for similar projects or plans
- State of the environment reports
- Geographical information systems
- Site history files
- Other, as appropriate

Practical tools and information systems are available in different countries to support the identification of potential impacts from different types of projects and plans on Natura 2000 sites. Examples of such tools are provided in Box 5.

Box 5. Examples of information systems for the identification of potential impacts from different types of projects and plans on Natura 2000 sites

Germany

The necessary information about the potential negative effects of nearly all project types is given by the information system FFH-VP- Info of the Federal Agency for Nature Conservation. This includes checklists with assessments of the importance / relevance of impacts on habitat-types and species. http://ffh-vp-info.de/FFHVP/Page.jsp.

The Netherlands

The Dutch government issued a tool to quickly assess the possible impacts of a project, which helps in the initial phase. See: www.natura2000.nl (find the tool under "routeplanner beschermde natuur" and "effectenindicator Natura 2000-gebieden").

Belgium

For assessing acidification and eutrophication through aerial deposits (deposition of NOx and NH3 linked to activities like intensive agriculture, industrial heating and energy processes and mobility), an interactive online application, is available for a first screening (https://www.milieuinfo.be/voortoets/). It is a quick scan tool to determine possible impacts. If this deposition scan gives a green light, no possible harmful impact is to be expected. If the tool gives a red light, this means that there might be a harmful impact that needs to be examined closer through an AA.

England

Natural England (agency responsible for nature conservation) has developed a tool for marine Natura 2000 sites that provides advice on marine based operations. This can help to predict impacts from plans and projects. For a site based example, see:

https://designatedsites.naturalengland.org.uk/Marine/FAPMatrix.aspx?SiteCode=UKO 030372&SiteName=lymebay&SiteNameDisplay=Lyme+Bay+and+Torbay+SAC&countyC ode=&responsiblePerson=&SeaArea=&IFCAArea

B) Consideration of the Natura 2000 site features and conservation objectives

The identification of the possible effects of the project or plan on the Natura 2000 site(s) will need to include consideration of the features (species, habitat types) for which the site is designated.

The information in the Natura 2000 standard data form (SDF)¹⁰ provides the starting point for the identification of habitat types and species present on the site that could be affected by the plan or project. Other relevant site information such as the management plans of the Natura 20000 sites, a list of operations which may cause damage or deterioration, etc. are usually accessible through online portals and websites from national or regional authorities.

Box 6. Information on the Natura 2000 site features

The Standard Data Form, which is available for each Natura 2000 site, contains information on the EU protected species and habitat types for which the site has been designated and provides a broad assessment of the condition of each species or habitat type on that site (scored from A to D).

It provides information about surface area, representativity and conservation status of the habitats present in the site, as well as the global assessment of the value of the site for conservation of the natural habitat types concerned.

For the species present in the site, information is provided on their populations, status (resident, breeding, wintering, migratory) and on the site value for the species in question.

It also includes relevant contextual information about the site, inter alia:

- general site characteristics, quality and importance;
- vulnerability (pressures upon the site from human and other influences and the fragility of habitats and ecosystems);
- impacts related to all human activities and natural process that may have an influence, either positive or negative, on the conservation and management of the site and proportion of the sites' area of the site affected;
- management body responsible for the site;
- site management plans and practice, including traditional human activities,
- a map of the site.

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¹⁰ See: Natura 2000 Standard Data Form. Explanatory notes.

http://ec.europa.eu/environment/nature/legislation/habitatsdirective/docs/standarddataforms/notesen.pdf

Conservation measures and management plans

For special areas of conservation, Member States shall establish the necessary conservation measures involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans, and appropriate statutory, administrative or contractual measures which correspond to the ecological requirements of the natural habitat types in Annex I and the species in Annex II present on the sites. When available, Natura 2000 management plans can provide information about the sites' conservation objectives, the location and status of the species and habitats occurring in the site, their threats and the conservation measures required to improve their conservation status, which can be useful for the screening stage and for the appropriate assessment.

The Commission website provides data and maps for all Natura 2000 sites in the EU through the Natura 2000 viewer and the Natura 2000 public database http://ec.europa.eu/environment/nature/natura2000/data/index_en.htm.

Most Member States also have publically available spatial information on Natura 2000 sites and their features.

Besides considering the data from the Standard Data Form, the Natura 2000 Viewer and the national or regional authorities' information on management, it can be useful to take into account the results of the monitoring surveys of habitat and species inside and outside the Natura 2000 sites, at biogeographic, national and local level.

It is important that data from management plans and monitoring is made publically available in a common database and regularly updated and that all stakeholders can easily have access to them.

3.1.4. Step Three: assess whether likely significant effects can be ruled out

A) Assessment of significance

The next step of the screening stage is the assessment of the significance of the impacts identified in the previous step. It involves assessing how those effects may have an impact on the Natura 2000 site and whether likely significant effects can be ruled out.

A likely significant effect is, in this context, any effect that may reasonably be predicted as a consequence of a plan or project that would affect the features for which the site was designated, but excluding irrelevant effects. It is important to remember that it can result from either on-site or off-site activities and need to be considered in combination with other plans or projects.

Box 7 provides examples of types of effects which are likely to be significant.

Box 7. Examples of types of effects which are are likely to be significant¹¹

- Reduction of the area or deterioration of protected habitats on the site.
- Direct or indirect change to the physical quality of the environment (including the hydrology) within the site.
- Significant disturbance to species for which the site is designated;
- Mortality risk of species
- Altered community structure (species composition).
- Direct or indirect damage to the size, characteristics or reproductive ability of populations on the site.
- Increased vulnerability of populations and/or habitats to other impacts.
- Change to the connectivity within site or with other Natura 2000 sites the (e.g. presenting a barrier between isolated fragments, or reducing the ability of the site to act as a source of new colonisers).
- Reduction in the resilience of the habitats/species against external change (for example its ability to respond to extremes of environmental conditions).
- Hampering restoration of a feature where this is a conservation objective.

Adapted from: English Nature, 1999. HRGN No. 3 ("Likely significant effects")

In order that the test of significance of effects on habitats and species present on Natura 2000 sites can be carried out in a systematic and objective manner, it may be useful to establish relevant aspects and conditions for each habitat type and species potentially affected, such as those presented in Box 8.

Box 8. Relevant aspects to consider in significance assessment

- conservation status of each habitat type and species, both in the particular site and at the biogeographical region level, country, etc.;
- area covered in the site (absolute value and percentage) and total area in the country/biogeographical region (percentage);
- population of a species in the site and its relative importance in the country/biogeographical region;
- degree of representativity;
- rarity, endemicity, priority; e. g. species that is extremely rare in the national context shall be considered with more caution
- particular characteristics and relevance of the site for the habitat type/species concerned: e.g. limit of the distribution area, relict, etc.
- vulnerability and sensitivity to various pressures (e. g. eutrophication, fragmentation, succession, noise, etc.)
- other relevant aspects to assess the "value" and importance of the site for habitat

¹¹

types/species likely to be affected, e.g. one of the main localities for the habitat types/species potentially affected, situated in the limit of the habitat type/species distribution area, hosting a particular variety of a species or a sub-type of the habitat, etc.

Sources of information to determine the significance of effects may include evidence from similar operations affecting sites with similar conservation objectives and the expert judgement based on available evidence. However, cases will always be different and consideration must be given to the local circumstances.

Some methods and guidelines to assess significance are available in Germany (see in Annex 1) and under development in other countries (e.g. Spain, Belgium).

Box 9. Case study examples: Assessment of significance

Road project: In this case, the significance of impact was determined on the basis of an estimate of habitat loss within a Natura 2000 site. As the habitat type affected was in unfavourable status and declining in the country and biogeographical region concerned, it was considered that even a small loss could be significant and would require an appropriate assessment.

Developments at an estuary site. In this case, the complex relationships between species and habitats were of prime concern. A matrix was developed, relating five types of bird (e.g. small feeding waders, roosting wildfowl) to three levels of sensitivity ('disturbance potential' throughout the year). Sensitivity was assessed as being high, moderate or low. May to August was identified as the period of lowest potential disturbance. Planned construction work during a period of 'high' disturbance potential was seen as likely to cause significant impact (i.e. sufficient to prompt mitigation, which included the rescheduling of construction activity).

Water resource developments in semi-arid land: The consideration of significance began in this case with the establishment of a set of indicators for critical aspects of environment and socioeconomic conditions and included nature conservation area status and regional distribution of species according to habitat selection criteria. Impacts were measured in terms of possible disturbance and displacement of bird populations and degradation of protected wetlands.

Improvement of skiing area close to an SPA. The felling of trees to improve the ski runs was considered significant as they provided an important habitat for numerous species of protected birds. The effect of the improvement of the ski runs and facilities was considered to split the habitat of the birds present on the site. The likely impact of cables of ski lifts on birds was also taken into account.

B) Assessment of possible cumulative impacts with other plans and projects

The screening requires identification of all the possible effects of the project or plan that, alone or in combination with other projects or plans, have the potential for having significant effects on the Natura 2000 site(s).

At the level of screening, the **consideration of cumulative impacts** is usually more general and less detailed than in the Appropriate Assessment. However, it must still consider other plans or projects that are also likely to have impacts on the Natura 2000 sites concerned.

A series of individually modest impacts may, in combination, produce a significant impact.

When determining likely significant effects, the combination with other plans and/or projects should also be considered to take account of cumulative impacts during the assessment of the plan or project in question.

The in-combination provision concerns other plans or projects which have been already completed, approved but uncompleted or actually proposed. In addition, it is important to note that the assessment of cumulative effects is not restricted to the assessment of similar types of plans or projects covering the same sector of activity. All types of plans or projects that could, in combination with the plan or project under consideration, have a significant effect, should be taken into account during the assessment.

Similarly, the assessment should consider the cumulative effects not just between projects or between plans but also **between projects and plans (and vice versa**). For example, a new project to build a major motorway through an area may on its own not adversely affect the site, but when considered in combination with an already

See further details in MN2000 - section 3.5.3

Obtaining information about other plans and projects that can act in combination to generate cumulative impacts on the site can be a challenging task. It is very useful to have databases or information systems which can provide this information in a selected area, as already existing or under development in some countries (e.g. Germany¹²). Existing databases to inform the public about SEA and EIA of plans and projects may also be used to identify possible cumulative effects¹³.

Otherwise, the relevant authorities (environmental or sectoral) can be consulted and should be able to provide relevant information about other plans/projects to consider in the assessment.

¹² An example is the database and information system on FFH compatibility tests in North Rhine-Westphalia: http://ffh-vp.naturschutzinformationen.nrw.de/ffh-vp/de/start

¹³ E.g. in the Czech Republic there is an information system with a database of plans and projects that have gone through the EIA and SEA, and including those that have been subject to AA. https://portal.cenia.cz/eiasea/view/eia100 cr; https://portal.cenia.cz/eiasea/view/SEA100 koncepce

In order to ensure all effects upon the Natura 2000 site are identified, including those direct and indirect effects that are the result of cumulative impacts, the steps outlined in Table 2 can be completed.

TABLE 2. Cumulative impacts assessment						
Steps in the assessment	Activity to be completed					
Identify all projects/plans which might act in combination	Identify all possible sources of effects from the project or plan under consideration, together with other sources in the existing environment and other possible effects from other proposed projects or plans.					
Impact identification	Identify the types of impacts (e.g. noise, water resource reduction, chemical emissions, etc.) that can affect the structure and functions of the site vulnerable to change.					
Define spatial and temporal	Define boundaries for examination of cumulative effects;					
boundaries for assessment	note these will be different for different types of impact					
	(e.g. effects upon water resources, noise) and may include remote (off-site) locations.					
Pathway identification	Identify potential cumulative pathways (e.g. via water, air, etc.; accumulation of effects in time or space). Examine site conditions to identify where vulnerable aspects of the structure and function of the site are at risk.					
Prediction	Prediction of magnitude/extent of identified likely cumulative effects.					
Assessment	Justify whether or not the potential cumulative impacts are likely to be significant.					

Where a feature for which the site has been selected is already in unfavourable condition or when critical thresholds are being exceeded (or if the site is subject to cumulative effects which will lead to either of these being the case), any additional plan or project which, either alone or in combination, adds measurable impacts to these levels is likely to have a significant effect on the site.

3.1.5 Step Four. Conclusions: decision based on the outcome of the screening

Determining whether a plan or project is likely to have a significant effect will have practical and legal consequences. Plans and projects that are considered as not likely to have significant effects can be processed without reference to the subsequent steps of Article 6(3). However, Member States will need to justify and record the reasons for reaching such a screening conclusion.

Where, without any detailed assessment at the screening stage, it is straightforward to assume (because of the type, the size or scale of the project or plan, or the characteristics of the Natura 2000 site) that significant effects, alone or in combination, are likely, it will be necessary to undertake the Appropriate Assessment (Stage Two).

In case of doubt, i.e. if it cannot be excluded, on the basis of objective information, that a project or plan can have a significant effect on Natura 2000 site(s), either

individually or in combination with other plans or projects', the plan or project needs to be subject to an appropriate assessment.

Once the screening assessment has been completed, the decision issued by the authorities could be in the form of one of the following two statements:

- 1. it can be concluded that there are not likely to be significant effects on the Natura 2000 site; or
- 2. the assessment either suggests that significant effects are likely or that sufficient uncertainty remains to indicate that an appropriate assessment should be carried out.

The outcome should be a fully justified decision that either:

- o an appropriate assessment is not needed; or
- an appropriate assessment is needed, ideally together with some guidance on the likely scope of this assessment (including the likely significant impacts that could not be excluded in the screening).

It is good and prudent practice to record the findings of the significance test in a document or report, which can be made available to relevant stakeholders (a possible form for a screening report is provided below, in Box 10).

BOX 10. EXAMPLE OF A SCREENING REPORT

<u>Summary description of the project or plan and main elements likely to cause impacts</u>

Project/plan objectives and its main elements/activities during different phases (e.g. construction, operation and decommissioning, if appropriate).

Summary description of the Natura 2000 site and its main features

Habitats and species present in the site likely to be affected and importance of the site for them

<u>Description of individual elements of the plan or project likely to give rise to impacts on the Natura 2000 site</u>

- size and scale
- distance from the Natura 2000 site, interaction with key features of the site
- land-take, excavation requirements
- resource requirements (water abstraction, etc.)
- emissions (disposal to land, water or air);
- transportation requirements
- duration and timing of construction, operation, decommissioning,
- impact range of impact factors (e.g. noise, nitrogen deposition, turbidity)

Description of likely effects on the Natura 2000 site and its features, in terms of:

- reduction of habitat area, habitat degradation or fragmentation
- disturbance to species, reduction in species populations and density
- changes in ecological functions and/or elements that are essential for the ecological requirements of habitats and species (e.g. water quality and quantity, etc.)
- increase of pressures and threats
- interference with key relationships that define the structure and function of the site.

Description of likely impacts of the project in combination with other plans or projects

- Impact factors to be considered for cumulative effects
- List and description of projects with possible cumulative effects
- Assessment of the extent and significance of cumulative effects

Criteria for determining significance, indicators of significance, e.g.:

- Degree of habitat loss (absolute, relative), changes in habitats structure
- Risk of species populations' displacement, disturbance, reduction of species home range, feeding area, refuge areas, alteration of favourable condition for breeding.
- Importance of the habitats and species affected, e.g. representativity, local variety, etc.
- Importance of the site (e.g. limit of distribution area for certain habitats and species, stepping stone, important for ecological connectivity, etc.)
- Disruption or alteration of ecological functions
- Changes to key ecological elements of the site (e.g. water quality etc.).

Conclusions :	Describe from	the above those ele	ements	of th	ne project	or plan, or	com	binatior	1
-	where the all impacts is not	oove impacts are lik known.	cely to	be s	significant	or where	the	scale o	r
Likely significa	ant effects:	☐ Not expected			□ Expe	cted or unc	ertair	า	
Every accessil	ole source of ir	formation was check	ked: [∃ Yes	s 🗆 No				

3.2. Stage Two: the Appropriate Assessment

3.2.1. Introduction

The purpose of the appropriate assessment is to assess the implications of the plan or project in respect of the site's conservation objectives, either individually or in combination with other plans or projects.

The conclusions should enable the competent authorities to ascertain whether the plan or project will adversely affect the integrity of the site concerned. The focus of the appropriate assessment is therefore specifically on the species and/or the habitats for which the Natura 2000 site is designated.

MN2000 - section 3.6.1.

The Appropriate Assessment applies both to projects and plans. It can be coordinated with or be integrated in other environmental assessments, namely the EIA (for projects) and the SEA (for plans) (see Section 5.2).

As in the EIA and SEA process, the Appropriate Assessment usually involves the submission of information in the form of an assessment report by the project or plan proponent for consideration by the competent authority. Where there are negative impacts, this stage also involves proposing mitigation measures to alleviate the impacts.

It is the competent authority's responsibility to reach a conclusion about the effects of the project or plan on Natura 2000.

The assessment process will include the gathering and consideration of information from various stakeholders, including the proponents of the project or plan; national, regional and local nature conservation authorities; and relevant NGOs. These would be the subject of specific consultations with relevant experts and organisations. In its turn, the competent authority can use the information submitted by the project or plan proponent as the basis of consultation with internal and external experts and other stakeholders. The competent authority may also need to request further information to ensure that the final assessment is as comprehensive and objective as possible. The procedure should allow for providing broader information to the public, in the context of the joint or coordinated procedures with EIA or SEA. Further information about consultation in the context of the Appropriate Assessment is provided in section 3.2.7.

An Appropriate Assessment involves the following steps:

- 1. Gathering information on the project and on the Natura 2000 sites concerned.
- 2. Assessing the implications of the plan or project in view of the site's conservation objectives.
- 3. Determining whether adverse effects on the integrity of the site are expected

- 4. Considering mitigation measures
- 5. Conclusion

These steps may need to be implemented iteratively, with some steps revisited in response to the results of others.

Each activity will be described in the following sections. Further considerations, e.g. on consultation and ensuring the quality of Appropriate Assessments, will be addressed at the end of this chapter.

3.2.2. Step One. Gather information on the project and on the Natura 2000 sites concerned

The information needed to complete the appropriate assessment includes all relevant data and details on the Natura 2000 sites likely to be affected and about the project or plan considered.

It must be ensured that the appropriate assessment addresses all elements contributing to the site's integrity as specified in the site's conservation objectives and Standard Data Form, and is based on the best available scientific knowledge in the field

Part of the information required may have been gathered already during the screening phase, although further and more detailed information is normally required for the AA.

The baseline information required for the AA can be discussed between the developer and competent authorities and agreed upon from the outset (scoping). Such scoping can be discussed once the screening determines the need for an AA and before the assessment is conducted.

Defining from the outset the baseline information required for the Appropriate Assessment and the main issues to analyse in the assessment (scoping) can contribute to ensure the quality of assessemnt. The EIA Directive promotes this practice.

In order to improve the quality of an environmental impact assessment, to simplify the procedures and to streamline the decision-making process, the competent authority should, where requested by the developer (or where required by the Member State), issue an opinion on the scope and level of detail of the environmental information to be submitted in the form of an environmental impact assessment report ('scoping').

EIA Directive. Art. 5.2 (Directive 2014/52/EU).

A) Description of the Natura 2000 site and it's conservation objectives

Relevant information sources for the Natura 2000 sites and key features are listed in Table 3 below.

Table 3. Information sources on Natura 2000

INFORMATION	AVAILABLE AT/FROM			
Natura 2000 site's Designating Acts	Official Journals, online, nature conservation			
	authorities or agencies			
Natura 2000 site's features - Standard Data	National/regional online portals, Natura			
Form	2000 viewer, Natura 2000 database ¹⁴ ,			
	national databases			
Natura 2000 sites maps (sites' boundaries)	Natura 2000 viewer, Natura 2000 database			
	and Spatial data (GIS) ¹⁵ , national databases			
Natura 2000 site's Management plan,	Official Journals, online portals, nature			
conservation objectives, conservation	conservation authorities or agencies (upon			
measures	request)			
Other site management documents /	Official Journals, online portals, nature			
instruments (regulations, contracts,	conservation authorities or agencies (upon			
agreements), e.g. on prohibited activities	request), landowners			
Reports on conservation status assessment	Online report on Art. 17 of the Habitats			
of habitat types and species	Directive ¹⁶			
Monitoring data relating to the Natura 2000	Online portals, competent authorities.			
site's features and conservation objectives				
Available maps and GIS on natural resources	Online resources, official publications			
(forests, wetlands, etc.)				

The sources of the information required are varied. Among these, management plans of Natura 2000 sites and other site management instruments, where available, provide very relevant information for the Appropriate Assessment and are normally readily available, e.g. through online platforms, or from site managers and competent authorities. The degree of conservation of each species and habitat type in the Natura 2000 site are recorded in the Standard Data Form.

Monitoring data relating to the site's features and conservation objectives should also be made available and regularly updated, in a way that relevant stakeholders can easily have access to them.

An indicative checklist of baseline information required for the Appropriate Assessment is presented in Table 4.

https://bd.eionet.europa.eu/activities/Reporting/Article_17/Reports_2007/index_html

¹⁴ The European database on Natura 2000 sites consists of a compilation of the data submitted by Member States to the European Commission. This European database is generally updated once per year, so as to take into account any updating of the content of the national databases by Member States. It is available at: https://www.eea.europa.eu/data-and-maps/data/natura-9

https://www.eea.europa.eu/data-and-maps/data/natura-9/natura-2000-spatial-data

Table 4. Baseline information about the site required for the Appropriate Assessment (indicative checklist)

Information about Natura 2000 sites and their features	Sources
The habitat types and species present and their condition on	Standard Data Form
the site: conservation degree, representativity, etc.	Management plans
	Designating Acts
	Available literature
	Expert-based information
The conservation objectives of the site.	Standard Data Form
Conservation measures planned or implemented in the sites.	Designating Acts
Land use, prohibited and permitted activities in the site.	Management plans
	Other site management
	documents/instruments
Importance of the site for habitats and species protected	Natura 2000 database,
under the Habitats and Birds Directive, its role for the network	Management plans
	Available literature
	Expert-based information
Main threats and pressures identified in the site.	Standard Data Form
Vulnerability and fragility of habitats and ecosystems	Management plans
	Other site management
	documents/instruments
	Available literature
	Expert-based information
Main ecological requirements of the habitat types and species	Available literature
The ecology and dynamics of the habitats and species	Documents / online
	resources
	Expert-based information
The key structural and functional elements and relationships	Management plans
that create and maintain the site's integrity	Documents / online
	resources
Relevant plans, current and historical maps, existing	Relevant agencies and
geological and hydrogeological survey and other material that	other bodies.
may be available	
Results from other relevant assessments, including data on	Online reports (Art. 17),
conservation status of habitats and species (Art. 17), WFD,	Competent authorities
etc.	
Other plans or projects (implemented, approved, proposed)	Online platforms,
likely to cause in-combination or cumulative effects.	databases, e.g. on SEA, EIA,
	AA plans/projects, regional
	or municipal plans.
	Authorities.

B) Description of the project or plan and its impact factors

Potential impacts caused by the project or plan were typically already identified during the Screening stage. However, for the Appropriate Assessment, further and more detailed information is necessary to assess the extent of possible adverse effects.

Baseline information required for the plan/project is set out in Table 5 below:

Table 5. Baseline information about the project / plan required for the Appropriate Assessment

Information concerning the project or plan	Sources		
Full characteristics of the project or plan: total area affected by	Project/plan developer		
the project, project activities, emissions, natural resources use,	Project or plan documents		
phases, time planning, etc.	(blueprint, maps, etc.		
The relationship (e.g. key distances, etc.) between the project	Maps, GIS		
or plan and the Natura 2000 site			
Characteristics of existing, proposed or other approved	Competent authorities,		
projects or plans which may cause interactive or cumulative	databases (where		
effects with the project being assessed on Natura 200 sites	available)		
Information about other assessments required for project	National legislation,		
consent or plan approval	competent authorities		
Relevant organisations involved in/concerned by the sector /	Project/plan developer,		
activity of the plan or project	Competent authorities		
Environmental impact statements, appropriate assessment	Competent authorities,		
reports and other documentary evidence from similar plans or	relevant agencies and		
projects that have been assessed in the past.	other bodies.		

3.2.3. Step Two: assessment of the implications of the plan or project in view of the site's conservation objectives

The Appropriate Assessment should include a comprehensive identification of all the potential effects of the plan or project likely to be significant on the site, taking into account cumulative and other effects likely to arise as a result of the combined action of the plan or project under assessment with other plans or projects. (MN2000)

The Appropriate Assessment should guarantee full consideration of all the structural and functional elements that contribute to the site integrity, both in the definition of the baseline conditions and in the stages leading to identification of potential impacts, mitigation measures and residual impacts.

During Step Two the following main aspects need to be considered:

- a) Identify the conservation objectives of the Natura 2000 site(s) affected by the plan or project
- b) Identify and assess the impacts of the plan or project in view of the sites' conservation objectives
- c) Assessment of cumulative effects with other plans and projects

A) Identify the conservation objectives of the Natura 2000 site(s) affected by the plan or project

In the Appropriate Assessment, the effects of a plan or project must be assessed in view of the conservation of the natura 2000 sites likely to be affected.

The conservation objectives should be set at the level of each individual site and concern, within that site, all the species and habitat types for which the site has been designated under the Habitats Directive or classified under the Birds Directive

Site-level conservation objectives should be based on the ecological requirements of the natural habitat types and species present on the site and should define their desired conservation condition on the site. They should reflect the importance of the site for the maintenance or restoration of the habitat types and species present on the site and for the coherence of Natura 2000. Moreover, they should reflect the threats of degradation or destruction to which the habitats and species on the site are exposed, including those brought about by climate change.

They are sometimes defined as a set of targets to be achieved over a certain period of time. These targets should be established in function of the conservation assessment of each species and habitat type on the site as recorded in the SDF.

See further details in MN2000 – section 2.3.1, and the Commission Note on setting conservation objectives

(ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm)

The conservation objectives for a Natura 2000 site are usually stated in the management plans or relevant management instruments, where available, or in other documents published for Natura 2000 sites (e.g. designating acts published in official journals). In addition, the Natura 2000 Standard Data Form for a site provides information on the current state of conservation of all the species and habitat types present in the site and its importance for them.

Conservation objectives established for each of the habitat types and species present in the sites can be set with reference to their area, structure and functions, populations, etc. They can also be referred to ecological functions and processes on which the habitats and species depend (e.g. maintenance of water quality and quantity for aquatic species, etc.), which are related to the ecological requirements of the habitat types and species present in the site. Examples of site conservation objectives are provided below in Box 11.

Box 11. Examples of conservation objectives for habitat types and species in Natura 2000 sites

Active raised bogs (7110). Extend the active raised bogs area in the site (increase the current area by 10%) and improve its condition (increase cover level of characteristic bog mosses –*Sphagnum* species). Prevent livestock grazing on active raised bogs.

Otter (Lutra lutra). Maintain the current population (XX individuals) and improve its connectivity with other populations along the river.

Dry grasslands (6210). Maintain the habitat surface (xxx ha) in the site and keep it in good condition by setting favourable grazing management (according to determined stocking density).

Fixed dunes (2130). Maintain the surface area and improve the conservation status of the habitat by limiting nutrient deposition and preventing scrub development.

Beech forests (9110). Maintain the surface area and improve the structure and function of the forest, including by natural regeneration, recovery of typical species, diversification of horizontal and vertical structures, maintaining dead wood, encouraging species diversity and precautions regarding infrastructures.

Reefs (1170). Maintain the current ecological quality, habitat structure and extent of habitat type 1170; maintain the typical benthic communities of habitat type 1170, its characteristic species and typical fish species; maintain the largely natural morphology and ecological functions of habitat type 1170, in particular as stepping stones allowing benthic organisms to spread in the area.

Harbour porpoise (Phocoena phocoena). Maintain the qualitative and quantitative status of the species population as of the time of site submission, taking into account natural population dynamics and trends; maintain the ecological quality of feeding habitats and the spatial and temporal distribution of natural food resources for harbour porpoises; maintain the current population structures and dynamics, the reproductive fitness and natural genetic diversity within the population in the site and maintain the scope for genetic exchange with populations outside the site.

Where conservation objectives have been set for a site, the effects must be assessed against these objectives. Where conservation objectives have not yet been set for a site, and until this is done, then the appropriate assessment must assume as a minimum that the objective is to ensure that the habitat types or habitats of species present do not deteriorate below the current level or the species are not significantly disturbed, in accordance with the requirements of Article 6(2) and without prejudice to the effectiveness of the conservation measures necessary for the fulfilment of the requirements of Article 6(1).

See MN2000 – section 3.6.3

The ecological requirements involve all the ecological needs, including both abiotic and biotic factors, which are deemed necessary to ensure the conservation of the habitat types and species, including their relations with the physical environment (air, water, soil, vegetation, etc.).

Furthermore, the structure and functions need to be well understood in order to allow a proper identification and prediction of the impacts. It is therefore important to consider all the elements that are essential to the functions and the structure of the site and of the habitat types and species present.

Whilst the focus of the assessment should be on the species and habitat types of Community interest that have justified the site designation, it should not be forgotten that these target features also interact with other species and habitat types, as well as with the natural environment, in complex ways. In this regard, other species can also be relevant for determining potential effects on protected habitats if they constitute

typical plant and animal species of the habitat type in question¹⁷ or play a significant role in food chain on which the Natura 2000 site's target feature depend.

It can also be useful to consider the results of the monitoring surveys of habitat types and species inside and outside the Natura 2000 sites, at biogeographic, national and local level.

B) Identify and assess the impacts of the plan or project in view of the site's conservation objectives

All the aspects of the plan or project which can, either individually or in combination with other plans or projects, affect the sites conservation objectives must be identified in the light of the best scientific knowledge in the field.

The appraisal of effects must be based on objective and, if possible, quantifiable criteria. Impacts should be predicted as precisely as possible, and the basis of these predictions should be made clear and recorded in the Appropriate Assessment report

The assessments should take account of the impact of the entire project or plan in question, with all the activities it comprises in the different phases (preparation, construction, operation and, where relevant, decommissioning). The assessment requires that the types of impact are identified and differentiated, including direct and indirect effects, temporal or permanent effects, short- and long-term effects and cumulative effects.

The Appropriate Assessment indeed involves looking at all the aspects of the plan or project for which likely significant effects on the Natura 2000 site are not excluded at screening stage. In this context, each element of the plan or project should be examined in turn and its potential effects should be considered in relation to each of the species or habitat types for which the site has been designated. Thereafter, the effects of the different features within the plan or project should be looked at together, and in relation to each other, so that the interactions between them can also be identified.

Different methods can be used to predict the potential impacts of plans or projects activities on natural features, including, among other:

- direct measurements (e.g. for habitat loss);
- Flow charts, diagrams, chains of impacts (direct, indirect impacts etc.);
- predictive models (e.g. using Geographical Information Systems),
- correlation analysis (e.g. predicting effects from changes in physical conditions that determine habitat or species presence);
- using experience or evidence for effects from similar previous projects;

¹⁷ For explanation of particular terms, see "Interpretation Manual of European Union Habitats - EUR28" at http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index en.htm#interpretation

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- carrying capacity analysis, with identification of potentially limiting factors and thresholds of stress above which populations and ecosystem functions cannot be sustained;
- expert judgement.

It must be ensured that the Appropriate Assessment addresses all elements contributing to the site's integrity as defined in the Standard Data Form. It is important to consider all the elements that are essential to the functions and the structure of the site and to the habitat types and species present. Other species can also be relevant for determining potential effects on protected habitats if they constitute typical species of the habitat type in question¹⁸ or play a role in food chains on which the site's target features depend.

An example of a systematic cross-analysis between project elements and conservation objectives of a Natura 2000 site is provided in the table 6 below.



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¹⁸ For explanation of particular terms, see "Interpretation Manual of European Union Habitats - EUR28" at http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index en.htm#interpretation

Table 6. Example of systematic cross-analysis between project elements and protected features of a Natura 2000 site

Project phase	Project component	Habitat 1	Habitat 2	Habitat 3	Species 1	Species 2	Species 3
Construction	Element 1	Loss (area)					Disturbance, displacement of individuals
	Element 2				Habitat loss/reduction	Deterioration of habitat quality	
	Element 3			Loss (area)			Barrier effect
	Element 1						
Operation	Element 2				Loss of habitat quality		
	Element 3						
	Water abstraction	Habitat degradation				Habitat degradation due to flow reduction	
	Water pollution						
	Solid discharges		Habitat degradation				
	Noise					Loss of breeding habitat	Displacement of individuals

The assessment must be based on best available scientific knowledge in the field. Where there are gaps in information or the information is insufficient to properly assess the effects of the plan or project, it is necessary to undertake further **surveys** and **fieldwork**, for which sufficient time ans resources should be planned for. This may involve prospecting the area to confirm and determine the precise location and distribution of natural features in relation to the planned activities of the project or plan under assessment, sampling methods, censuses, inventories, etc.

For instance, when the desk study indicates that there are vulnerable habitats present which have an associated rare assemblage of flora and/or fauna, further surveying may be necessary. New survey work may also be required in situations where:

- the desk study indicates that the area to be affected contains species targeted by site specific conservation objectives;
- species are likely to interact with the operation of the development;
- a population has an important function within the habitats in and around the proposed development site;
- the impact of the development will lead to significant habitat changes.
- data from field survey are needed to enhance the knowledge gained from studies, consultation with experts and authorities and other publicly available sources.

Data obtained from field surveys should provide an objective basis for the assessment process. Taking into account the need for field surveys, an adequate time-frame is needed for the appropriate assessment, e.g. a one-year study which covers a whole vegetation cycle taking into account the sesonality of the wildlife.

The impacts should be quantified or recorded according to relevant parameters that allow the assessment of their magnitude and importance for the site's natural features which justified its designation, for instance in terms of:

- Surface of habitat affected by direct removal (e.g. clearing of vegetation) resulting for construction of facilities, and percentage of the habitat area on the site, at regional, national and biogeographical level.
- Surface of habitat affected by degradation (e.g. pollution, changes in the structure or functions) as a result of activities during the project preparation /operation, and percentage of the habitat area on the site, at regional, national and biogeographical level.
- Size of resident species population affected, and percentage of the local, regional, national and international populations.
- Size of migratory species population affected (the size of each population as a percentage of the local, regional, national and international populations should be indicated wherever possible.
- Reduction of water flow in a river or wetland (in m³/s), decrease in the water table that feeds a humid area (in cm/m).
- Increase in the noise produced by the project activities (during construction, and operation) expressed in decibels.

When determining possible adverse effects, the assessment should not only consider negative changes in the current status, but also changes that can prevent the achievement of conservation objectives, e.g. the necessary improvement in conservation status of relevant Natura 2000 site features.

C) Assessment of cumulative effects with other plans and projects

Cumulative impacts can result from the successive, incremental, and/or combined effects of a development (plan, project or activity) when added to other existing, planned, and/or reasonably anticipated developments. Examples of cumulative impacts include the following:

- Increases in pollutant concentrations in a water body or in the soil.
- Reduction of water flow in a watershed due to multiple withdrawals.
- Interference with migratory routes or wildlife movement.
- Increased pressures on habitats and species in an ecosystem from different developments.

Cumulative impacts are contextual and encompass a broad spectrum of impacts at different spatial and temporal scales. In some cases, cumulative impacts occur because a series of projects of the same type are being developed, for example, when several hydroelectric projects are constructed or planned on the same river or within the same watershed, when multiple oil and gas projects or mines are developed in close proximity, or when a number of wind farms are constructed or planned within the same flyway or region. In other cases, cumulative impacts occur from the combined effects of different types of projects; for example, the development of a mine site, access roads, transmission lines, and other adjacent land uses. In some situations, different components of the same development are implemented and assessed separately, and the cumulative impacts from these components should be subject to a cumuluative impact assessment.

Other plans or projects that could, in combination with the plan or project under investigation, have a significant effect, must tbe taken into account during the appropriate assessment.

The 'in combination' effects are already considered in the Screening stage (Section 3.2), when other plans and projects that can act in combination should have been identified. The assessment at that stage may however be rather superficial while in the Appropriate Assessment the identified impacts of other projects or plans that can act in combination with the project or plan that is being assessed should be properly evaluated. This requires a quantification and/or qualification of the magnitude of these other impacts and the identification of the features of the Natura 2000 sites which they affect.

As already mentioned in the description of the screening stage (see section 3.1.4), the in-combination provision concerns other plans or projects which have been already completed, approved but uncompleted or actually proposed.

In addition to the effects of those plans or projects which are the main subject of the assessment, it may be appropriate to consider the effects of already completed plans and projects, including those preceding the date of transposition of the Directive or the date of designation of the site. The effects of such completed plans and projects would normally form part of the site's baseline conditions which are considered at this stage.

Plans and projects which have been approved in the past but have not yet been implemented or completed should be included in the in-combination provision. As regards other proposed plans or projects, on grounds of legal certainty it would seem appropriate to restrict the in-combination provision to those which have been actually proposed, i.e. for which an application for approval or consent has been introduced. At the same time, it must be evident that, in considering a proposed plan or project, Member States do not create a presumption in favour of other not yet proposed plans or projects in the future.

See further details in MN 2000 – section 3.5.3

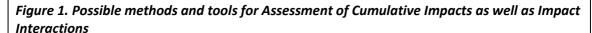
Assessment of cumulative impacts may draw on information from a variety of sources including environmental studies and programs; strategic, sectoral, and regional environmental assessments; project environmental assessments; cumulative impact assessments from similar situations; and targeted studies on specific issues.

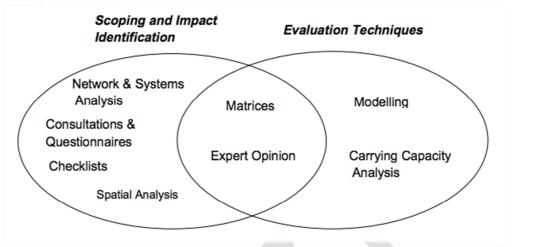
Information about other plans and projects that can produce in-combination or cumulative effects can be obtained from different sources. Devices or tools for drawing together cumulative impacts, like databases that bring together the projects and plans to be considered, are helpful to streamline the assessment of cumulative effects. .

The use of databases or other information systems, if available, is particularly recommended with regard to the recording of existing impacts. Appropriate databases or information systems are most likely to ensure that all impacts of projects existing at the time of appraisal are recorded if these information sources are regularly updated. In order to keep those databases useful for the AA, the competent authorities should strive to keep application documents online also after the permit has been granted

Otherwise, the competent authorities (nature conservation, sectoral) can be consulted in order to provide information about other plans/projects to consider in the assessment. Expert advice may be also a good source of data on cumulative effects.

A wide variety of methods and tools can be used to assess cumulative impacts, usually including a scoping and an evaluation phase (see figure 1 below).





From: EC, 1999. Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions

Consultations, checklists, mapping overlay, network and systems analysis can be suitable tools in the scoping exercise, which will identify the potential impacts to be further considered in the cumulative impacts assessment.

Network and Systems Analysis is based on the concept that there are links and interaction pathways between individual elements of the environment, and that when one element is specifically affected this will also have an effect on those elements which interact with it.

Spatial Analysis uses Geographical Information Systems (GIS) and overlay maps to identify where the cumulative impacts of a number of different actions may occur, and impact interations. Can also superimpose a project's effect on selected receptors, features or resources to establish areas where impacts would be most significant.

Expert Panels can be formed to identify and assess cumulative impacts. Matrices can be used to evaluate impacts and to consider the cumulative impacts of multiple actions on a site or feature and impact interactions.

Modelling provides an analytical tool that enables the quantification of cause-and-effect relationships by simulating environmental conditions. This can range from air quality or noise modelling, to use of a model representing a complex natural system. Carrying capacity analysis addresses accumulation of impacts against thresholds. However it may always possible to establish the threshold or carrying capacity for a particular feature or receptor.

Methods chosen should be compatible with the information available for the analysis and that can provide, whenever possible, a quantitative estimate of cumulative impact. If qualitative estimates of cumulative impact are to be developed, they should

be based on the consensus estimate of a panel of experts rather than on the opinion of an individual expert.

The method chosen does not need to be complex, but should aim at presenting the results in a way that can be easily understood by the developer, decision-maker and the public.

Governments can play a significant role by providing and implementing enabling frameworks that guide and support the appropriate identification and management of cumulative impacts

A possible step-by-step process for cumulative impact assessment is presented below. The process must be flexible; the steps may not proceed in sequence and may need to be implemented iteratively, with some steps revisited in response to the results of others.

Box 12. Process for implementing the Cumulative Impact Assessment (CIA)¹⁹

Step 1. Scoping Phase

- Identify the spatial boundaries and the temporal extent of the CIA.
- Identify the natural features (habitats, species, ecological processes, etc.) to consider, i.e. those potentialy affected by the plan or project; those for which an impact is considered insignificant are not to be included in the CIA.
- Identify other existing and planned plans and projects (and human activities) that do/would affect the natural features to be included in the CIA.
- Identify natural environmental drivers that also impact the condition of the features considered in the CIA.

Step 2. Establish the baseline status of the natural features considered in the CIA

- Collect available information on the impacts of the other plans, projects, activities and natural drivers on the condition of the natural features considered n the CIA.
- Collect available information on trends in the natural features condition.
- Collect available information on regional thresholds for the natural features.

Sep 3. Assess Cumulative Impacts on the natural features considered

- Establish indicators for expression of the natural features condition. This may already be reflected in the information collected on their baseline status (in Step 2). If not, the indicators can be estimated from the baseline information.
- Estimate the "future condition" for the natural features considered as affected by the other plans and projects, human activities, and natural drivers.
- Estimate the plan or project impact on the natural features condition.
- Estimate the cumulative impact on the natural features —the total impact on the natural features when the impacts of the development are combined with the future condition.

¹⁹ This procedure is based on: ICF, 2013. Good Practice Handbook: Cumulative Impact Assessment and Management.

Step 4. Assess Significance of Anticipated Cumulative Impacts

 Assess the significance of the foreseen cumulative impacts on the natural features considered. E.g. when the cumulative impact on natural features condition will approach or exceed a threshold (carrying capacity), the impact is significant.

Step 5 Management of Cumulative Impacts

• Identify, when necessary, additional project mitigation to reduce an estimated unacceptable cumulative impact on a natural feature to an acceptable level (iteration with the tasks described in Steps 3 and 4 will be necessary to assess the value of such additional mitigation.

3.2.4 Step Three. Determine the effects of the plan or project on the integrity of the Natura 2000 site

From the information gathered and the predictions made about the impacts and changes that are likely to result from the different stages of the project or plan, it should now be possible to assess the extent of the effects of the project or plan on the integrity of site(s).

The description of the site's integrity and the impact assessment should be based on the best possible indicators specific to the Natura 2000 features, which can also be useful in monitoring the impact of the plan or project implementation.

A checklist of impacts that may cause an adverse effect on the integrity of a Natura 2000 site is provided in Box 13. This list is indicative as it is not possible to provide a comprehensive list in this document.

Box 13. Assessment of effects on the Integrity of the site: a checklist

Does the project have the potential to:

- Hamper or cause delays in progress towards achieving the conservation objectives of the site?
- Disrupt those factors that help to maintain the favourable conditions of the site?
- Interfere with the balance, distribution and density of species that are the indicators of the favourable conditions of the site?
- Reduce the area of habitat types, or habitats of species, for which the site has been designated?
- Reduce the population of species for which the site has been designated?
- Result in disturbance that could affect the population size or density or the balance between species?
- Result in fragmentation?
- Result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding, etc.)?
- Reduce the conservation degree of habitats and species that motivate the site designation

The "integrity of a site" relates to its key natural features, ecological structures and functions. If none of the habitat types or species for which the site has been designated is significantly affected by the proposed plan or project then the site's integrity cannot be considered to be adversely affected. However, if just one of them is significantly affected then the site integrity is necessarily adversely affected.

The "integrity" concerns the main ecological factors that sustain the long-term presence of the species and habitats in a Natura 2000 sites. An impairment of these factors may have an adverse effect, even if the species or habitats are not directly impacted. For instance, the hydrological regime of a river, fluvial morphology processes, erosion, sediment transport and accumulation are crucial factors for conserving river habitats and species. Influencing these processes could have an impact on site integrity, even if known patches of natural habitats and localities with confirmed species presence are not directly impacted.

3.2.5 Step Four: consideration of mitigation measures

Depending on the degree of impact identified during the Appropriate Assessment, it may be possible to introduce certain mitigation measures that will avoid or reduce these impacts.

Mitigation measures may be proposed by the plan or project proponent and/or required by the competent national authorities in order to remove, pre-empt or reduce the impacts identified in the Appropriate Assessment to a level where they will no longer affect the site.

Mitigation measures can only be considered in the stage of the Appropriate Assessment and not at the screening stage. These measures must be directly linked to the impacts that have been identified in the Appropriate Assessment.

The Appropriate Assessment promotes a hierarchy of mitigation measures, which should consider:

- avoidance: prevent impacts from happening in the first place
- reduction: reduce the magnitude and/or likelihood of an impact.

The identification of mitigation measures, like the Appropriate Assessment itself, must be based on a sound understanding of the species and habitats concerned. For example, they may cover:

- the dates and the timetable of implementation (e.g.: do not operate during the breeding season of a particular species),
- the type of tools and operation to be carried out (e.g.: to use a specific dredge at
 a distance agreed upon from the shore in order not to affect a fragile habitat, or
 to reduce emissions which may cause harmful deposition of pollutants),
- preventing access to certain areas inside a site (e.g. hibernation burrows of an animal species).

Table 7. Possible mitigation measures for impacts on habitats and species of Community

Types of mitigation measures

Avoidance

- Sensitive design of the plan or project, use of best techniques/solutions to prevent effects
- Siting of projects based on least damage criteria
- Avoidance of key areas (entire Natura 2000 sites or core areas within or connecting Natura 2000 sites)
- Protective fences to prevent damage to vegetation
- Wildlife fences
- Avoidance of key periods for implementation works (e.g. breeding season)
- Desisting from impact-generating actions

Reduction, moderation, minimization

- Emission controls
- Noise barriers
- Screens
- Pollutant interceptors
- Controlled access to sensitive areas during construction/operation
- Wildlife crossings (e.g. bridges, tunnels and "ecoducts")
- Adapting impact–generating actions to reduce effects to the extent possible

Mitigation measures, which aim to prevent or reduce any impacts from happening in the first place, **must not be confused with compensatory measures**, which are intended to compensate for residual damage caused by the project. Compensatory measures can only be considered under the procedure according to Article 6(4), i.e. if the plan or project with adverse effect on the integrity of Natura 2000 site(s) has been accepted as being necessary for Imperative Reasons of Overriding Public Interest and where no alternatives exist (see Section 3.3).

Mitigation measures are those measures that aim to minimise, or even eliminate, the negative impacts likely to arise from the implementation of a plan or project so that the site's integrity is not adversely affected. These measures are considered in the context of Article 6(3) and are an integral part of the specifications of a plan or project or conditional to its authorisation (see section 4.6.5).

Compensatory measures are independent of the project (including any associated mitigation measures). They are intended to offset the residual negative effects of the plan or project so that the overall ecological coherence of the Natura 2000 network is maintained. They can only be considered in the context of Article 6(4).

See further details in MN2000 - section 3.6.6

For the competent authority to be able to decide if the mitigation measures are sufficient to prevent or remove potential adverse effects of the plan or project on the Natura 2000 site, each mitigation measure must be described in detail, with an explanation given of how it will eliminate or reduce the adverse impacts which have

been identified. See an example for the description of mitigation measures in Table 8 below.

Information should be provided about how, when and by whom the mitigation measures will be implemented. Their effectiveness should be guaranteed by expert justification and evaluated on the basis of objective scientific data, with references to existing practice (e.g. in other projects and activities) and relevant sources. If any problem arises further in the stage of implementation, it should be addressed immediately. If there is uncertainty about the effectivenees of some mitigation measures, it may be nesseary to put in place a system to monitor their results and, where possible failures are detected, implement response options.

Box 14. Suggested issues to consider when deciding on effectiveness of mitigation measures in the Appropriate Assessment

- Are mitigation measures feasible within the plan or project under AA evaluation?
- Are the mitigation measures clearly targeting the impacts identified in the AA?
- Are the means and resources for implementation of mitigation measures ensured?
- Are there records of successful prior implementation of the mitigation measures proposed?
- Are there comparative assessments of ecological effectiveness for different mitigation actions, with indication of limiting factors and rates of success or failure?
- Is there a comprehensive planning description to implement and sustain the mitigation measures (including monitoring and evaluation where needed)?

The effectiveness of mitigation measures implemented may need to be monitored when there are uncertainties about their sucess, e.g. when innovative measures are applied that have not been used previously in a particular context or if there are not enough proofs of their effectiveness on some particular natural features. The results of such monitoring should be shared with the competent authorities.

Table 8. Information about mitigation measures proposed for a plan or project

Adverse effects identified (list)	Mitigation measures to be introduced (description of the measures, avoidance/reduction of effects, details on implementation, effectiveness, etc.)				
Effect #1	Measure #1	1			
Name/ description	Explain how the measures will avoid/reduce the effects on the integrity of the site	Provide evidence of how they will be implemented and by whom.	Provide evidence of their effectiveness (e.g. based on scientific evidence / expert rationale)	Provide a timescale, relative to the project or plan, when they will be implemented	Explain the proposed monitoring scheme and reporting requirements, including how any possible mitigation failure will be addressed
	Provide details of the mitigation, explaining the factors which will address the adverse effects.	This may include details of legally binding agreements that should be completed in advance of project or plan authorisation.	This may include evaluation reports or evidence from similar projects or plans, or statements from relevant experts, or support from the relevant nature conservation agency.	Some mitigation may be designed into the project or plan; in some cases, it will be additional mitigation that needs to be either in place before the project or plan authorisation or as soon as possible afterwards.	Securing a monitoring scheme and dealing with mitigation failure may be through legally binding agreements that should be completed in advance of project or plan authorisation.

3.2.6 Step Five: conclusions of the Appropriate Assessment

The assessment carried out under Article 6(3) of the Habitats Directive must contain complete, precise and definitive findings and conclusions in the light of the best scientific knowledge in the field and capable of removing all reasonable scientific doubt as to the effects of the works proposed on the protected site concerned²⁰.

The conclusions of the AA must clearly relate to the integrity of the site. Where the assessment concludes that there will be adverse effects on the integrity of the site, it should clarify for which aspects, considering mitigation, there are residual adverse effects. This will be important in case the plan or project could be considered using the derogation process according to article 6(4).

Following the completion of the Appropriate Assessment, it should be considered best practice to produce an AA report which:

- a) describes the project or plan in sufficient detail for members of the public to understand its size, scale and objectives;
- b) describes the baseline conditions of the Natura 2000 site;
- c) identifies the adverse effects of the project or plan on the Natura 2000 site;
- d) explains how those effects will be avoided or sufficiently reduced through mitigation;
- e) sets out a timescale and identifies the mechanisms through which the mitigation measures will be secured, implemented and monitored.

The appropriate assessment report should be laid out succinctly and clearly, with easy to follow evidence trails (e.g. leading from activities, to pressures, to sensitivities, to vulnerabilities) and should contain an appropriate level of evidence or analysis. The report should be sent for consultation with the relevant nature conservation agencies and, if appropriate, the public.

The result of the AA assessment and the conclusions of the AA report should also be part of the authorisation or any other decision taken in relation to the plan or project under consideration.

Making a decision on the basis of the appropriate assessment

It is for the competent national authorities, in the light of the conclusions of the appropriate assessment into the implications of a plan or project for the Natura 2000 site concerned, to approve the plan or project. This can be done only after they have made certain that the plan or project will not adversely affect the integrity of the site. That is the case where no reasonable scientific doubt remains as to the absence of such effects.

²⁰ Case C-258/11. Sweetman, para. 44.

Where doubt remains as to the absence of adverse effects on the integrity of the site linked to the plan or project being considered, the competent authority will have to refuse authorisation.

See further details on MN2000 – section 3.7.3

If the competent authority considers that adverse effects will take place, or that the possibility of such effects cannot be excluded, then the project or plan may not proceed unless the derogation procedure can be applied (see Section 3.3) and it can be concluded that the project or plan fulfils the conditions set for the application of Art. 6(4).

3.2.7 Further considerations: Consultations, ensuring Appropriate Assessment quality

3.2.7.1 Consultation

Consultations with experts, other authorities and potentially affected groups, can improve the environmental information available to those carrying out the AA and to decision makers (e.g. by identifying environmental effects or designing suitable mitigation measures) and help minimise potential conflicts and delays.

Consultation with relevant authorities, biology or ecology experts and stakeholders during the procedures laid down in Art. 6(3) serves several purposes:

- Gathering information and ensuring all relevant data and expert opinions are available and taken into consideration: nature conservation and sectoral authorities should cooperate during the assessment process to ensure that the AA is based on the best available information and experiences and that all relevant aspects are properly taken into account.
- Giving opportunity to express opinion: it should be ensured that the authorities likely to be concerned by the project by reason of their specific environmental responsibilities or local and regional competences are given an opportunity to express their opinion on the information supplied by the developer and on the request for development consent (as required by the EIA Directive).
- Obtaining the opinion of relevant stakeholders and of the general public. Although Article 6(3) only requires obtaining the opinion of the general public, if appropriate, public participation is generally encouraged in decision-making procedures that concern public interest, as in the case of environmental issues.

Public participation in the article 6(3) procedure

The Habitats Directive does not contain an explicit obligation to obtain the opinion of the general public when authorising plans or projects requiring an appropriate assessment. According to the wording of Article 6(3) this has only to be done if it is 'considered appropriate'. However, the Court has clarified in a recent judgment on the basis of the requirements of the Aarhus Convention²¹, that the public concerned, including recognised environmental NGOs, has the right to participate in the authorisation procedure (C-243/15 paragraph 49). This right involves in particular, 'the right to participate "effectively during the environmental decision-making" by submitting, "in writing or, as appropriate, at a public hearing or inquiry with the applicant, any comments, information, analyses or opinions that it considers relevant to the proposed activity" (C-243/15, paragraph 46).

See further details in MN2000 – section 3.7.2

Genuine efforts to provide the public with information and respond to suggestions or concerns can also help prevent misunderstandings and can result in more widely accepted projects with a greater sense of local ownership. Undoubtedly, public consultation and participation can be time consuming and demanding, but when used positively they can reduce antagonism and enhance the potential for long-term success.

Public Participation under the EIA Directive

Effective **public participation** in the taking of decisions enables the public to express, and the decision-maker to take account of, opinions and concerns which may be relevant to those decisions, thereby increasing the accountability and transparency of the decision-making process and contributing to public awareness of environmental issues and support for the decisions taken.

Participation, including participation by associations, organisations and groups, in particular nongovernmental organisations promoting environmental protection, should accordingly be fostered, including, inter alia, by promoting environmental education of the public.

Among the objectives of the Aarhus Convention is the desire to guarantee rights of public participation in decision-making in environmental matters in order to contribute to the protection of the right to live in an environment which is adequate for personal health and well-being. Article 6 of the Aarhus Convention provides for public participation in decisions on activities not so listed which may have a significant effect on the environment.

EIA Directive (preamble and article 6.2)

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²¹ Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters. This Convention was concluded in Aarhus, Denmark in June 1998. The EU is one of the signatories since 2005 under Decision 2005/370/EC http://ec.europa.eu/environment/aarhus/legislation.htm.

3.2.7.2 Ensuring the quality of the Appropriate Assessment

AA must be based on best scientific knowledge in the field. Accordingly, the AA study must be prepared by a person or persons with the requisite ecological expertise and experience, supplemented as necessary by additional expertise and experience (e.g. geology, hydrology, engineering or planning, environmental law) and produced in a scientifically complete, professional and objective manner.

While the study to inform the AA will generally be submitted by those seeking approval for a plan or project, competent authorities should satisfy themselves that it demonstrates sufficient expertise, scope and focus in relation to the ecological or other issues (e.g. hydrological) concerned, and competence and standards in scientific methodology and impact assessment.

In order to comply with these quality requirements, some countries have adopted a certification scheme or qualification/authorization system based mainly on required education in the area of nature conservation and passing a test.

In Box 15, the system of quality assurance established in the EIA directive is briefly explained.

Box 15. Ensuring quality of the environmental impact assessment report in the EIA Directive

In order to ensure the completeness and quality of the environmental impact assessment report:

- (a) the developer shall ensure that the environmental impact assessment report is prepared by competent experts;
- (b) the competent authority shall ensure that it has, or has access as necessary to, sufficient expertise to examine the environmental impact assessment report; and
- (c) where necessary, the competent authority shall seek from the developer supplementary information, in accordance with Annex IV, which is directly relevant to reaching the reasoned conclusion on the significant effects of the project on the environment.

Member States shall, if necessary, ensure that any authorities holding relevant information, with particular reference to Article 3, make this information available to the developer.

Article 5(3) and (4) of the EIA Directive.

Regardless of whether the provisions of Article 6(3) are delivered following existing environmental impact assessment procedures or other specific methods, it must be ensured that Article 6(3) assessment results allow full traceability of the decisions eventually made.

Table 9

CHECKLIST TO ENSURE QUALITY OF APPROPRIATE ASSESSMENT UNDER ARTICLE 6(3)

The assessment:

- Considers all elements contributing to the Natura 2000 site's integrity as indicated in the site's conservation objectives and Standard Data Form and the importance of habitats and species concerned in the context of network, and is based on best available scientific knowledge in the field.
- Considers the role of the site and its function within the biographical region and in the coherence of the Natura 2000 network.
- Includes a comprehensive identification of all the potential impacts of the plan or project likely to be significant on the site, taking into account cumulative impacts likely to arise as a result of the combined action of the plan or project under assessment and other plans or projects.
- Provides for the incorporation of the most effective mitigation measures into the plan or project concerned, in order to avoid, reduce or even cancel the negative impacts on the site.
- Applies the best available techniques and methods, to estimate the extent of the
 effects of the plan or project on the biological integrity of the site(s) likely to be
 damaged.
- Includes the best possible indicators to monitor the plan or project implementation.

To meet the requirements of Article 6(3) assessment, the Natura 2000 authorities may set up the formal specifications regarding the type of information and criteria to follow when carrying out the appropriate assessment.

Dissemination of good practice and training to the relevant parties associated with the appropriate assessment procedure (e.g. authorities at a different level of government, consultants and plan or project developers) is highly recommended.

Table 10. Example of Appropriate assessment report

Relevant characteristics of the plan or project

Aim, scope, location, main activities

Natura 2000 sites(s) likely to be affected and its(their) conservation objectives

Describe the conservation objectives of the site(s) in the context of the appropriate assessment.

Assessment of the effects of the project or plan on the integrity of the site

Describe the elements of the project or plan (alone or in combination with other projects or plans) that are likely to give rise to significant effects on the Natura 2000 site (from screening assessment).

Describe how the project or plan will affect species and habitats which justify the site designation, and the implications for the site's conservation objectives (e.g. loss of habitat, disturbance to species, mortality risk of species, fragmentation, hydrological changes, etc.). Acknowledge uncertainties and any gaps in information.

Justify whether the integrity of the site will be affected by the project or plan or not. Acknowledge uncertainties and any gaps in information.

Describe what mitigation measures are to be introduced to avoid or reduce the adverse effects on the integrity of the site.

Acknowledge uncertainties and any gaps in information.

Conclusion

Justify whether the integrity of the site will be affected by the project or plan or not.

Sources for the elaboration of the AA

Results of consultation

Name of agency(ies) experts / or body(ies) consulted

Summary of response

3.3 Stage Three. "Derogation" regime under Article 6(4)

Plans or projects for which the AA could not conclude that they will not affect the integrity of the sites concerned may only be approved by the competent authorities via the provisions of Article 6(4). These provisions entail three key requirements that must be met and documented:

- 1. There is no alternative solution that would respect the Natura 2000 site integrity.
- 2. There are imperative reasons of overriding public interest that justify the implementation of the plan or project.
- 3. All compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected are taken.

These three main requirements are discussed in the following sections.

Article 6(4) allows for exceptions to the general rule of Article 6(3) but its application is not automatic. It is up to the authority to decide whether a derogation from Article 6(3) can be applied. Article 6(4) must be applied in the sequential order established by the Directive – that is after all the provisions of Article 6(3) have been undertaken in a satisfactory manner.

See further details in MN2000 – section 5.2

3.3.1 Assessment of alternative solutions

The application of the derogation procedure under article 6(4) requires demonstrating that the alternative put forward for approval is the least damaging for habitats and species which justified the designation of the site and for the integrity of the Natura 2000 site, regardless of economic considerations, and that no other feasible alternative, exists that would not adversely affect the integrity of the site.

It is for the competent national authorities to ensure that all feasible alternative solutions that meet the plan/project aims have been explored to the same level of detail. This assessment should be made against the species and habitats for which the site has been designated and the site's conservation objectives.

The absence of alternatives must be demonstrated, before proceeding with the examination of whether the plan or project is necessary for imperative reasons of public interest (Court ruling in Castro Verde case C-239/04 paragraphs 36-39).

See further details in MN2000 - section 5.3.1

The assessment of alternative solutions that is required in the Article 6(4) procedure may best involve two levels of analysis: the planning level and the technical level. The planning level usually refers to strategic considerations that may be first stated for

broad policy areas. When these considerations are devolved to plans, programmes and/or projects, it is possible to also approach the feasibility of options at the technical level.

Alternative solutions could refer to alternative modalities for an activity as such (e.g. different routes, number of lanes for roads) but also to a broader set of alternative solutions that achieve the same objective, e.g. a rail connection improvement could be considered as an alternative to a new road, wind energy development an alternative to a hydro power plant, etc.

However, possible alternatives depend on the objectives of the plan or project as well as on the level of planning. Some examples to illustrate this are summarised below:

- Hydro energy Plan: the objective is to exploit the hydro energy potential of a river Possible alternatives to achieve this objective could be a different location on the same river, different scale or technology. It could not be the construction of a windfarm instead.
- Renewable energy: the objective is to achieve x% of renewable energy in total consumption. Alternatives can offer different relations between hydro, wind and solar energy, but also common projects with other states, measures for lowering the total consumption or at least non-renewable part of the consumption etc

The steps for the assessment of alternative solutions that is required in Article 6(4) are:

- a) Identification of alternative solutions
- b) Comparative assessment of the alternatives considered
- c) Justification of the absence of alternatives that are feasible for consideration under Article 6(4) (if applicable)

A) Identification of alternative solutions

The first obligation of the Article 6(4) derogation procedure is to examine whether there are alternative solutions to the plan or project. This requires to identify a range of possible alternative ways of achieving the objectives of the plan or project. Crucial to the assessment of alternative solutions is the consideration of the 'do nothing' alternative, also known as "zero" option. This also provides the baseline scenario for comparison of alternatives.

The alternatives considered should include different feasible options to implement the activities proposed in the plan or project, with the aim to avoid the impacts on the Natura 2000 site integrity. The options may include variants of:

concept alternatives (on the level of plans)

- Categorization of locations that may be available for the development proposals according to Natura 2000 assets. For example, by defining land transportation corridors in Master Plans for roads and motorways.
- alignments within main pre-defined routes.
- Scale and size of development.
- design solutions for the development.
- techniques or operational methods for the implementation of the development.
- Timetable of the various activities and tasks entailed at each of the implementation stages, including during operation and, if applicable, decommissioning.

Consultation on the identification of alternatives can facilitate the implementation of Article 6(4) procedures. The procedures of SEA and EIA include provisions so that consultations are held at the most appropriate level, as set by the competent authorities.

B) Comparative assessment of the alternatives considered

The responsibility to evaluate the relative impact of the alternative solutions in view of justifying the decision within the derogation process rests with the competent authorities. The effects of each of the alternatives considered need to be analysed with regard to the habitats and species which justified the designation, the site's integrity and its importance in the context of the Natura 2000 network. The identified impacts of each alternative must be properly determined, recorded and quantified as far as possible. This must be the basis of the comparative evaluation of alternative solutions in Article 6(4).

The reference parameters for such comparisons deal with aspects concerning the conservation and the maintenance of the integrity of the site and of its ecological functions. Other criteria, as social considerations and the economic cost of the alternatives analysed cannot be the sole determining factor in the choice of alternative solutions. Economic cost should only be taken into account in deciding among alternatives that are equally the least harmful to the Natura 2000 network.

Box 16. How to assess alternative solutions

Consult relevant agencies and organisations.

Make use of the information gathered to complete the screening and appropriate assessment stages of the Article 6(3) assessments.

Identify and characterise the key objectives of the project or plan.

Identify all alternative means of meeting the objectives of the project or plan.

Provide as much information as possible, acknowledge gaps in information, and provide sources of information.

Assess the impact of each alternative on the conservation objectives of the site. This requires that an Appropriate Assessment of each alternative considered is carried out.

C) Justify the lack of alternatives that are suitable under the Habitats Directive

The competent authorities must determine whether the alternative put forward for approval is the least damaging for habitats and species and for the integrity of the Natura 2000 site or sites.

For each analysed alternative, there must be a description with indication of how it was assessed against its relative impact upon Natura 2000 sites.

The elements that are necessary in the description of the assessment of alternative solutions within Article 6(4) are presented in Table 11 below.

Table 11

Assessment of alternative solutions – elements of information to include in the assessment

Description and objectives of the project or plan

Justification of the need of the project / consideration of the zero option

Description of the adverse effects of the project or plan on the Natura 2000 site integrity

Comparative assessment of alternatives identified

Alternatives	Description	Effects on conservation objectives	Impact on the project objectives	Conclusions
Alternative 1	Location Route Scale Process Etc.	Habitat loss (surface) Reduction/displacement of species populations (numbers) Etc.	Impairment, reduction of effectiveness, feasibility, etc.	Balance between ecological consequences and the achievement of the project objectives Alternative selected/not selected
Alternative 2				
Alternative 3				

Box 17. Examples of statements on alternatives in Article 6(4)

Case 1. Road widening project²²

The project involves widening of a road development in Germany.

Statement on alternatives:

The alternative zero shows that the road is needed because otherwise the traffic problems around the connected municipalities cannot be solved by rearranging regional traffic. The road alignment selected is the least impacting on grounds of land take and nitrogen deposition according to set carrying capacity levels. The competent authority states that the alternative selected is the route with the largest balance between environmental and economic aims.

Case 2 Deepening and widening of a ship fairway²³

The project involves the deepening and widening of the ship fairway of the river Main at the sections Wipfeld, Garstadt and Schweinfurt (Bavaria/Germany)

Statement on alternatives:

Zero alternative showing the importance of the river transportation objectives.

- 1) Widening of the fairway equally on both riverbanks instead of the proposed project. This would reduce the required space affecting habitat type 91E0* by 7.5%. However, this alternative would negatively affect another Natura 2000 site (DE 6027-471 'Maintal zwischen Schweinfurt und Dettelbach' which won't be affected by the proposed project) and would lengthen both the construction time and the spatial extent of the project. Furthermore, the priority habitat type 'alluvial forests with Alnus glutinosa and Fraxinus excelsior' would still be negatively affected. As a consequence, this alternative was not taken into consideration.
- 2) Widening at the outside bend of the Main near the municipality of Schonungen instead of the proposed widening by altering at both sides. This would have approximately 25% less surface impact on the priority habitat type 91EO* and would have less adverse ecological impact. However, the widening at the outside bend would not improve the nautical characteristics of the river, which is one of the objectives of the project. On the contrary, the curve would be intensified. Furthermore, the priority habitat type 'alluvial forests with Alnus glutinosa and Fraxinus excelsior' would still be negatively affected. As consequence, this alternative was not taken into consideration.
- 3) Widening at the river bends where the widening will be scaled up to 58 m (based on physical manoeuvrability of boats). The project's dimension is appropriate to the existing extension stage of the Lower Main and the Main-Danube-Canal and is part of the Trans-European Network (TEN). This will create a continuous navigation channel with uniform minimum width and depths and is mainly limited to the existing riverbed. The project would affect the priority habitat type of Community interest 91E0* 'Alluvial forests with Alnus glutinosa and Fraxinus excelsior' and the habitat type 6510 'Lowland hay meadows'. Both habitat types would be damaged directly involving a surface loss of 9.460 m² for 91E0 and 6.440 m² for 6510. This is the alternative selected. The competent authorities considered that the proposed solution is the best balance between ecological and river transportation objectives. The loss of the habitats will be adequately compensated.

²² Commission opinion C(2015) 9085 final 18.12.2015,

http://ec.europa.eu/environment/nature/natura2000/management/docs/C(2015)9085%20EN.pdf

²³ Commission opinion C(2013)1871 final 05.04.2013

http://ec.europa.eu/environment/nature/natura2000/management/docs/Commission%20Opinion%20Main%20EN %20SEC-2013-1871.pdf

3.3.2. Imperative Reasons of Overriding Public Interest (IROPI)

In the absence of alternative solutions with no adverse effect on the integrity of the Natura 2000- or in the presence of solutions having even more negative environmental effects on the site concerned, the competent authorities have to examine the existence of imperative reasons of overriding public interest, including those of a social or economic nature, which justify the realisation of the plan or project in question.

The concept of 'imperative reason of overriding public interest' is not defined in the Directive. However, Article 6(4) second subparagraph mentions human health, public safety and beneficial consequences of primary importance for the environment as examples of such imperative reasons of overriding public interests.

As regards the "other imperative reasons of overriding public interest" of social or economic nature, it is clear from the wording that only public interests, irrespective of whether they are promoted either by public or private bodies, can be balanced against the conservation aims of the Directive. Thus, projects developed by private bodies can only be considered where such public interests are served and demonstrated.

See further details in MN2000 – section 5.3.2

It is reasonable to consider that the "imperative reasons of overriding public interest, including those of social and economic nature" refer to situations where plans or projects envisaged prove to be indispensable:

- within the framework of actions or policies aiming to protect fundamental values for the citizens' life (health, safety, environment);
- within the framework of fundamental policies for the State and the Society;
- within the framework of carrying out activities of economic or social nature, fulfilling specific obligations of public service.

The competent national authorities have to make their approval of the plans and projects in question subject to the condition that the balance of interests between the conservation objectives of the site affected by those initiatives and the above-mentioned imperative reasons weighs in favour of the latter. When determining IROPI a competent authority should consider the different elements of the term:

- Imperative: it must be essential (whether urgent or otherwise), weighed in the context of the other elements below, that the plan or project proceeds
- Overriding: the interest served by the plan or project outweighs the harm (or risk of harm) to the integrity of the site as identified in the appropriate assessment
- Public Interest: a public benefit must be delivered rather than a solely private interest.

Public interests can occur at national, regional or local level, provided the other elements of the test are met. In practice, plans and projects which are consistent with national or regional strategic plans or policies (e.g. identified within a National Infrastructure Plan) are more likely to show a high level of public interest. However consideration would still need to be given to whether, in a specific case, that interest outweighs the harm to the affected site(s) and therefore whether IROPI can be demonstrated. Plans or projects which fall outside national strategic plans, including those at a lower geographic scale, may also be able to show IROPI.

The public interest must be overriding, which means that not every kind of public interest of a social or economic nature is sufficient, in particular when seen against the particular weight of the interests protected by the Directive (see for instance recital 4, which refers to 'Community's natural heritage').

in this context, it seems also reasonable to assume that the public interest can only be overriding if it is a long-term interest; short term economic interests or other interests yielding only short-term benefits for the society would not appear to be sufficient to outweigh the long-term conservation interests protected by the Directive.

IROPI must be assessed on a case by case basis in light of the objective of the particular plan or project and its particular impacts on the European site(s) affected as identified in the appropriate assessment.

Balancing of IROPI against conservation objectives

The description of the plan or project objectives can already include elements that the competent authority must consider in order to determine IROPI for documenting the derogation procedure. These elements can also be used to appraise the IROPI of the plan or project against the ecological features that determine the Natura 2000 site integrity and the overall coherence of the Natura 2000 network.

The assessment of any imperative reasons of overriding public interest, like that of the existence of less harmful alternatives, requires a weighing up against the damage caused to the Natura 2000 site as a result of implementing the plan or project under consideration.

The more important the conservation assets of the site affected, the more restrictive the scope for IROPI that may be acceptable to justify damage to the Natura 2000 site determined in the AA: where the Natura 2000 site damaged hosts a priority natural habitat type and / or a priority species, the only considerations which may be raised as IROPI are those relating to human health or public safety, or to beneficial consequences of primary importance for the environment.

Other imperative reasons of overriding public interest may be adopted only after having obtained an opinion from the Commission.

Some examples of Imperative Reasons of Overriding Public Interest considered for different projects are presented in Box 18.

Box 18. Examples of assessment of IROPI in Article 6(4)

Case 1 Road widening project²⁴

The project's name is Ausbau der B 173 zwischen Lichtenfels und Kronach, Bauabschnitt Michelau und Zettlitz (Deutschland/Bayern). It is a road development. The developer is the roads authority of a regional government.

Statement on IROPI:

The road B173 is an important East-West connection to the motorways A9 and A73; this makes this secondary road an important territorial axis. The improvement intends to boost economic activity around a node (Kronach) and to ease connections with neighbouring Land Sachsen. In the context of the German transportation plan for territorial cohesion it also includes regional planning goals. At the local scale, the scheme allows rearranging between 75% and 82% of traffic volumes for reducing traffic impacts in the two localities connected. This is put forward as proof of the several levels of planning that build on within IROPI where these are considered above biodiversity goals in the specific context of the approval of road B173.

Case 2 Deepening and widening of a ship fairway²⁵

The project is the deepening and widening of the ship fairway of the river Main at the sections Wipfeld, Garstadt and Schweinfurt (Bavaria/Germany)

Statement on IROPI:

- The river Main is part of the Trans-European Network (TEN) and is the only inland waterway connecting several Member States with the south-east of Europe.
- The river Main functions as a cross-border traffic route for goods connecting Rotterdam (NL) and Konstanza (RO) and is therefore of economic importance.
- The project is one of the last missing links needed to adjust this fairway to the changed political and economic developments and requirements of an enlarged European Union.
- Currently, this part of the river Main still creates a bottleneck of 30 km where ships are still limited in their dimension in width and deep.

Strategic planning and IROPI

The IROPI are usually assessed in decision making at high-level and can be evoked in stages of strategic planning of developments. These reasons may be disclosed to a certain extent in the description of plans or programmes thereafter, in particular in the statement of the objectives motivating the development action. They may be subject to formal decision by Councils at the level of government that is most appropriate.

Documentation of IROPI

http://ec.europa.eu/environment/nature/natura2000/management/docs/Commission%20Opinion%20Main%20EN %20SEC-2013-1871.pdf

²⁴ Commission opinion C(2015) 9085 final 18.12.2015

http://ec.europa.eu/environment/nature/natura2000/management/docs/C(2015)9085%20EN.pdf

²⁵ Commission opinion C(2013)1871 final 05.04.2013

Considerations at the strategic level that may be required, and the information made available along the ordinary procedures may or may not suffice to formally document IROPI. It is frequent that the documentation of IROPI is finalized in decision making at the administrative level that applies in the procedure. This is the case in most MSs where the derogation in Article 6(4) has been implemented.

No matter the level of discretion that may apply at MS level to disclosure of information, the requirement is that the IROPI be documented.

3.3.3. Identification, assessment and adoption of compensatory measures

Once fully ascertained and documented that there are no alternatives of the plan or project harmless for the Natura 2000 network, and that imperative reasons of overriding public interest (IROPI) concur, all compensatory measures that are needed to ensure the protection of the overall coherence of the Natura 2000 network have to be taken.

The compensatory measures constitute measures specific to a project or plan, additional to the normal duties stemming from the Birds and Habitats Directives. These measures aim to offset precisely the negative impact of a plan or project on the species or habitats concerned. They constitute the 'last resort' and are used only when the other safeguards provided for by the directive are exhausted and the decision has been taken to consider, nevertheless, a project/plan having a negative impact on the integrity of a Natura 2000 site or when such an impact cannot be excluded.

See further details in MN2000 - section 5.3

Compensation should refer to the Natura 2000 site's conservation objectives and to the habitats and species negatively affected in comparable proportions in terms of quality, quantity, functions and status. At the same time the role played by the site concerned in relation to the bio-geographical distribution has to be replaced adequately.

The compensatory measures adopted must always be notified to the Commission.

3.3.3.1 Main types of compensatory measures and techniques that can be used in compensation

As mentioned above, compensatory measures in the context of article 6(4) of the Habitats Directive should go beyond the measures required for the designation, protection and management of Natura 2000 sites. Some types of compensatory

measures in this context are presented in the Table 12 below. Further details are provided in MN2000 – section 5.4.4

Table 12. Types of compensatory measures suitable for Article 6(4)			
Measure	Description		
Habitat restoration or enhancement in	Increasing the habitat area in the site concerned		
existing sites	or restoring the habitat in another Natura 2000		
	site, in proportion to the loss due to the plan or		
	project		
Habitat recreation	Creating a habitat on a new or enlarged site, to be		
	incorporated in the Natura 2000 network		
Designation of a new site to the Natura	Designating a new site of sufficient quality under		
2000 network with implementation of	the Habitats or Birds Directive and implementing		
accompanying management measures	the appropriate accompanying measures		
	(management plan and action)		
Species reintroduction, recovery and	Reintroduction of species into sites where the		
reinforcement, including	species have disappeared (provided the		
reinforcement of prey species	scientific soundness of such a re-		
	introduction). Re-stocking species populations		
	in areas where they are declining.		
Accompanying measures	Description		
Land purchase	Acquiring an area of land for nature conservation		
	and establishing the appropriate protection and		
	conservation measures.		
Rights acquisition for nature	Acquiring management rights over an area of land		
conservation	or sea and establishing the appropriate protection		
	and conservation measures.		
Reserve creation	Setting restrictions in the use of an area of land or		
	sea. This may be paired with incentives to good		
	practice (see next line).		
Incentives for good practice	Incentives for certain economic activities that		
	sustain key ecological functions. These incentives		
	may also be directed to the adaptation of the		
	activities to support the conservation of relevant		
	habitats and species.		
Reduction of threats	Reduction in (other) threats, usually to species,		
	either through action on a single source or		
	through co-ordinated action on all threat factors		
	(e.g. factors stemming from space-crowded		
	effects).		

Different techniques can be used in the design and implementation of compensatory measures, which are specific to the particular habitats types and species, and usually have to be specific to local situations. The possibility of designing and implementing effective compensation in relation to different habitats and species differ. While there are many good examples of successful restoration or creation of new habitats for

wetland birds or for toads' reproduction, for many species and habitats effective techniques for restoration are not well known or available.

Designing compensation that deals with restoration and reconstruction of ecosystems and habitats of species should be based on restoration ecology knowledge. Relevant achievements of this field of ecology are published in scientific journals or available in dedicated websites (e.g Restoration Evidence: http://www.restorationevidence.org/). Several good projects in the field of ecosystems' restoration have been implemented with the financial support of LIFE (available at: www.ec.europa.eu/environment/life

It must be however acknowledge that in some cases, adequate compensation may not be possible. This can be the case, in particular, in the following situations:

- Where localities that are crucial for endangered species or habitat types would be destroyed and cannot be replaced by similar key locations.
- Where restoration is not feasible, either because it would require an extremely long time (e.g. a bog would require a few thousand years to be effectively restored), or due the lack of knowledge on proper restoration ecology of the species or habitat type (e.g. this could be the case for limestone springs or natural alkaline fens).

When there is no guarantee of an effective compensation, damage to such patches of habitat and species should be to be avoided by all means.

3.3.3.2 Guiding principles for setting the targets of the compensatory measures

The main goal of compensatory measures within Article 6(4) is to retain the overall coherence of the Natura 2000 network. Consequently, two aspects that determine the design and implementation of compensatory measures must be addressed: proportionality and ecological functionality. These two principles set the scope of the measures required to compensate the adverse effects of the plan or project.

In order to ensure the overall coherence of Natura 2000, the compensatory measures proposed for a project should therefore: a) address, in comparable proportions, the habitats and species negatively affected; and b) provide functions comparable to those which had justified the selection criteria for the original site, particularly regarding the adequate geographical distribution. Thus, it would not be enough for the compensatory measures to concern the same biogeographical region in the same Member State.

The distance between the original site and the place of the compensatory measures is not necessarily an obstacle as long as it does not affect the functionality of the site, its role in the geographical distribution and the reasons for its initial selection.

See further details in MN2000 – section 4.2

A) Overall coherence of the Natura 2000 network

The mandate to "protect" the overall coherence of the Natura 2000 network in Article 6(4) presumes that the "original" network has been configurated coherently. If the exception regime of the Article 6(4) is used to approve plans or projects with adverse effects for the integrity of Natura 2000 sites, the situation must be corrected so that the network's coherence is not undermined. This means that Article 6(4) compensation must be effective in maintaining rather than restoring the overall coherence of the Natura 2000 network.

The importance of a Natura 2000 site to the coherence of the entire network depends on the number and status of the habitats and species for which the site is designated as well as on the role and function the site plays in ensuring the long-term viability and adequate geographical distribution in relation to the range of habitat types, species and habitats of species concerned.

The compensatory measures have to consider the contribution of a site to the conservation at a favourable status of natural habitats types and habitats of species within the biogeographical region concerned. The role and function played by the site for the conservation of affected habitats and species has to be replaced adequately. Compensatory measures should provide assets and functions comparable to those which had justified the selection of the Natura 2000 site affected.

B) Proportionality of the compensatory measures

Maintaining the overall coherence of Natura 2000 requires that the compensatory measures proposed for a plan or project address the habitats and species, in proportions that are comparable to the adverse effects caused on the site.

The competent authorities must determine the relative importance of the assets of Community interest and of the Natura 2000 site affected. This sets the reference for compensation.

Proportionality is determined by the negative impact stated according to quantitative and qualitative criteria. These criteria must refer to the Natura 2000 site and to the species and the habitats affected at the site.

Compensation ratios are best set on a case-by-case basis and must be initially determined in the light of the information from the Article 6(3) appropriate assessment and ensure ecological functionality. The ratios may then be redefined according to the results observed when monitoring the effectiveness, and the final decision on the proportion of compensation must be justified.

There is wide acknowledgement that ratios should be generally well above 1:1. Thus, compensation ratios of 1:1 or below should only be considered when it is shown that with such an extent the measures will be fully effective in reinstating structure and functionality within a short period of time (e.g. without compromising the preservation of the habitats or the populations of key species likely to be affected by the plan or project nor their conservation objectives).

See further details in MN2000 - section 5.5.4

Table 13 gives a brief overview of sources of information that can be used to determine the adequate proportion of compensatory measures. Table 14 at the end of this sub-section provides examples of elements and criteria to consider when designing compensatory measures that are suitable and effective.

Table 13 Working out the proportionality of Compensatory measures		
Element affected Source of information		
Area of habitat	AA study	
Population size of wildlife species	AA study	
	AA study	
	Standard Data Form of Natura 2000 site	
	Site management plan	
Conservation status	Nature directives' reporting	
- habitats and/or	(Article 17 of the Habitats Directive,	
- species	Article 12 of the Birds Directive)	
	Regional and local official databases	
	Available literature	
Conservation status in context	AA study	
Role and function of the site in relation to:	Standard Data Form of the Natura 2000	
- habitats and species numbers,	site	
status, ecological requirements and distribution;	Site management plan	
- ecological connectivity, migration	Nature Directive's reporting	
routes, specific conservation needs		

C) Ecological functionality and location of the compensatory measures

In addition to the need to address, in comparable proportions, the habitats and species negatively affected, compensation must provide ecological functions comparable to those which had justified the selection of the Natura 2000 site.

The scope of compensatory measures is determined by these specific requirements for reinstating certain ecological functions and structures that are either likely to be lost or subject to degradation as a result of the plan or project implementation.

There is general agreement that the local conditions necessary to reinstate the ecological assets at stake are found as close as possible to the area affected by the plan or project. Therefore, locating compensation within or near the Natura 2000 site concerned where suitable conditions for the measures to be successful seems the most preferred option. However, this is not always possible and a range of priorities should therefore be applied when searching locations that meet the requirements of the Habitats Directive:

- 1) Compensation within the Natura 2000 site, provided the necessary elements to ensure ecological coherence and network functionality exist within the site.
- 2) Compensation outside the Natura 2000 site concerned, but within a common topographical or landscape unit, provided the same contribution to the ecological structure and/or network function is feasible. The new location can be in another designated Natura 2000 site or a non-designated location. In the latter case, the location must be designated as a Natura 2000 site and be subject to all the requirements of the Nature Directives.
- 3) Compensation outside the Natura 2000 site, in a different topographical or landscape unit. The new location can be another designated Natura 2000 site. If compensation takes place on a non-designated location, this location must then be designated as a Natura 2000 site and be subject to all the requirements of the Nature Directives.

See further details in MN2000 – section 5.5.5

Competent authorities with decision powers in Article 6(4) should also pay particular attention when the negative effects of a plan or project are produced in rare and/or scarce Natura 2000 assets, for example habitats types or habitats of species that need a long period of time to provide the same ecological functionality.

The Box 19 below provides a simple example of considerations due when defining the scope of compensatory measures.

Box 19. Example of defining the scope of compensatory measures in relation to ecological functions

Ecological function affected by a plan or project: resting areas for migratory bird species in their way towards the north, located in an SPA.

Focus required in the design of compensatory measure:

a) the compensatory measures must provide alternative resting areas for the populations of the migratory bird species.

- b) the new suitable resting areas for the targeted species must be correctly located in the same migratory path.
- c) the new suitable resting areas must be realistically accessible to the birds which would have used the original Natura 2000 site affected by the project. The carrying capacity of the new habitat must be at least equal to the carrying capacity of the site affected. The new resting areas should be protected before that plan or project is carried out.

New resting areas for the same species but in locations out of the migratory path, or within the migratory path but far away from the resting spot affected, would not be a suitable compensatory measure because the ecological functionality recreated would not be sufficient to ensure the overall coherence of the network.

The following Table 14 sets out elements and criteria to apply for habitats and populations of species subject to compensatory measures under Article 6(4); various measures proposed are outlined and their suitability for compensation is analysed.



Table 14. Examples of basic elements and criteria to design compensatory measures under Article 6(4)

Natura 2000 asset affected	Negative effect	Proposed compensation	Suitability for Article 6(4)
Wildlife species	- Population size, per species - Species' habitat area lost - Proportion between the population at the Natura 2000 site and the total population - Function of the habitat area in the species' biology -Ecological relationships with the populations of the species at other sites	 Creation of area of habitat with ecological functionality for at least the same population size of each species affected Location of the new habitat: within the range where the species naturally occurs if not possible in or near the site affected, at a different site within a different administrative unit 	The proposal is consistent with the aim to maintain the overall coherence of the network, provided all scientific and financial safeguards are demonstrated. The compensatory measures are suitable.
		Payments to individuals or towards special funds operating for the conservation of the species affected.	Compensatory measures unsuitable in Article 6(4), where compensatory measures must be additional.
Habitat type	Loss of area of a habitat type listed in Annex I of the Habitats Directive	Re-creation of a habitat in an area comparable to the area affected. - Biological improvement of a substandard habitat of the same type comparable to the habitat affected. - Location: O Within an existing designated site. O In a new site to be designated as Natura 2000 of comparable quality to the original site. O The area selected provides the ecological conditions to develop the specific structure and function of the habitat type.	These compensatory measures are acceptable. They may also be combined in a single programme of compensatory measures to offset effects on the habitat type. In the latter case, a special assessment of trade-offs may be required for additional guarantees to the overall coherence of the network at the regional, MS and the EU levels.

3.3.3.3 Defining the compensatory measures – Main stages

The following steps can be followed in the design of compensatory measures:

- Characterise the negative effects on the Natura 2000 site that remain after mitigation. Identify the extent of the damage: habitat loss or deterioration (surface area), species populations (numbers) affected by reduction, displacement, disturbance, etc. Identify the principal function(s) of the habitats that will be adversely affected, e.g. feeding, roosting, etc..
- Establish clear objectives and target values addressing the Natura 2000 elements affected, in relation to the recovery of species and habitats, and/or ecological functions.
- Define the compensatory measures clearly referred to the structural and functional aspects of the site integrity, the habitat types and the species populations affected.
- Define the appropriate extent for the compensatory measures to ensure the overall coherence of the Natura 2000 network.
- Identify the most suitable locations for the implementation of the compensatory measures, considering the ecological conditions needed and available. This must be based on the best scientific knowledge available, complemented with specific investigations for the precise location where the compensatory measures will be implemented.
- Estimate the timescale to achieve effective compensation and any maintenance action required to enhance performance.
- Analyse the feasibility and effectiveness of the proposed compensatory measures according to scientific evidence. The most effective options, which allow for the greatest chances of success, must be chosen when it comes to deciding between different possibilities for compensatory measures.
- Analyse the administrative, legal and/or financial feasibility of the measures according to the timing required
- Define the most adequate timing for the implementation of the measures to ensure that compensation is achieved before damage occurs. Establish a timetable for implementation of the measures and their co-ordination with the schedule for the plan or project implementation.
- Provide a scientifically robust explanation of how the measures will effectively compensate for the negative effects of the plan or project on the species and habitats affected in light of the original site's conservation objectives, and how they will ensure maintenance of the overall coherence of Natura 2000 is protected.

Moreover, a number of key issues are crucial for the correct implementation of the compensatory measures, which include the following:

- Tight coordination and cooperation between Natura 2000 authorities, assessment authorities and the proponent of the compensatory measures.
- Public information and/or consultation stages.
- Specific monitoring and reporting schedules based on progress indicators according to the conservation objectives.

 Appropriate budget programme approved during the suitable period to guarantee the success of the measures.

A summary checklist of key issues to consider in compensatory measures is included at this end of this chapter (Table 18).

3.3.3.4 Timing of compensation

Time is a crucial dimension in the planning of compensatory measures as compensation must be in place and effective before the plan or project impacts occur.

Timing the compensatory measures calls for a case-by-case approach. The schedule adopted must provide continuity in the ecological processes essential for maintaining the structure and functions that contribute to the overall coherence of the Natura 2000 network. This requires a tight coordination between the implementation of the plan or project and the implementation of the compensatory measures, and relies on issues such as the time required for habitats to develop and/or for species populations to recover or establish in a given area.

In addition, other factors and processes must also be considered:

- A site must not be irreversibly affected before compensation is in place.
- The result of compensation should be operational at the time the damage occurs on the site concerned. Under certain circumstances where this cannot be fully achieved, overcompensation would be required for the interim losses.
- Time lags might only be admissible when it is ascertained that they would not compromise the objective of 'no net losses' to the overall coherence of the Natura 2000 network.
- Time lags must not be permitted, for example, if they lead to population losses for any species protected on the site under Annex II to the Habitats Directive or Annex I to the Birds Directive; priority species listed in Annex II to the Habitats Directive merit special attention.
- It may be possible to scale down in time compensatory measures, depending whether the significant negative effects are expected to arise in the short, medium or long term.

Specific measures to outweigh interim losses that would occur until the conservation objectives are met may be advisable. All technical, legal or financial provisions needed to implement the compensatory measures must be completed before the plan or project implementation starts, so as to prevent any unforeseen delays that may hinder the effectiveness of the measures.

See further details in MN2000 – section 5.5.6

The time required for upgrading, restoring or reinstating ecological functionality is determined by the habitats' and the species' biology and ecology. This needs therefore to be assessed on a case by case basis and may require investigation or search for

restoration evidence from similar situations. An example on the possible time lag taken to restore grassland communities is provided below.

Box 20. A review of time necessary to restore grassland communities

22 studies from seven European countries include information on the length of time taken to restore grassland communities (including 16 replicated trials of which nine also controlled and three reviews). Six studies saw positive signs of restoration in less than five years, 11 studies within 10 years and two studies found restoration took more than 10 years. Six studies found limited or slow changes in plant communities following restoration.

Source: Restoration Evidence. Action: Restore/create species-rich, semi-natural grassland. http://www.restorationevidence.org/actions/133#

3.3.3.5. Evaluation of effectiveness of compensatory measures under Article 6(4)

In order to demonstrate compliance with the obligation to maintain the coherence of the Natura 2000 network, it is essential that the effectiveness of compensatory measures in Article 6(4) is demonstrated and that this is documented in the programme of compensatory measures.

The geographical location, the timing, and the extent determine successful compensation. Adequate compensation ratios are also crucial to ensure effectiveness of compensation before the plan or project impacts show up.

The design and implementation of the compensatory measures must be comprehensive and scientifically sound. Some important elements to consider are provided in the table below.

Table 15. Key elements to ensure effectiveness of compensatory measures

	The conservation objectives, key features and ecological functionality to be compensated are targeted in the appropriate proportion.
Comprehensiveness of the measures proposed to ensure technical feasibility	The accompanying measures required , including technical, administrative, and financial, are incorporated.
teerimean reasistincy	The timetable for implementing the individual tasks within each measure, including the provision for maintenance works and monitoring, is sufficiently detailed.
Scientific robustness	The scientific basis proving the effectiveness of each compensatory measure is explained

specifically for the impact it aims to offset.

The time scale for accomplishment of the expected results from each of the proposed measures is stated.

The prioritization of the implementation of the measures is justified based on the Natura 2000 conservation objectives and scientific evidence.

Ensuring that these principles are fulfilled in planning and realised in implementation entails investigating the appropriateness of the locations and of the timeliness for implementation of the compensatory measures and may require field research.

A **summary overview** of the key elements to assess effectiveness of compensation in relation to location, timing, and extent are presented below. Examples of how these elements have been developed in practice are provided in Annex 1.



Table 16

Effectiveness of c	ompensatory measures
	Must allow maintaining the overall coherence of the Natura 2000
	network.
	Must have –or must be able to develop- the specific features, structure
	and functions that require compensation according to the results of the
	appropriate assessment.
	Must give proper consideration to qualitative ecological aspects such as
Location	the uniqueness of the assets impaired.
Location	Is determined by a careful analysis of local ecological conditions in
	order to ascertain the feasibility of compensation as close as possible to
	the area affected by the plan or project.
	Must be within the same biogeographical region (for sites designated
	under the Habitats Directive) or within the same range, migration route
	or wintering area for bird species (i.e. sites designated under the Birds
	Directive) in the Member State concerned.
	Must be determined by:
	- the extent of negative effects of the plan or project on the key
	features and ecological processes, which undermine the integrity
	of the Natura 2000 site;
	- scientific evidence of the feasibility of the measures for achieving
	the expected results for maintaining the overall coherence of the
Extent	Natura 2000 network.
	Is best set case—by—case, according to the information generated in the
	Appropriate Assessment under Article 6(3).
	Is initially set with the aim to outweigh the worst-case scenarios of
	likely adverse effects.
	Is ascertained by monitoring and reporting on ecological functionality
	outcomes.
	Must ensure the continuity of the ecological processes essential for
	maintaining the structure and functions that contribute to the overall
	coherence of the Natura 2000 network.
	Considers the coordination required between the implementation of
	the plan or project and the implementation of the compensatory
	measures.
	Is determined by the time required for habitats to develop and/or for
Timing	species populations to recover or establish in a given area.
	Considers legal safeguards required for long-term implementation and
	the protection, monitoring and maintenance of the sites to be secured
	before impacts on habitats and/or species occur.
	May require the application of specific measures to outweigh interim
	losses that would occur until the conservation objectives are met.
	Requires establishing complete monitoring programmes for the
	assessment of the success of compensation.

3.3.3.6 Monitoring of compensatory measures

The effectiveness of the compensatory measures devised in Article 6(4) must be measured in order to ensure that the overall coherence of the Natura 2000 network is maintained in the long term.

Considering the detailed descriptions of the programme of compensatory measures presented in the previous section, the monitoring should cover and refer to the following aspects.

Table 17. Aspects to consider in the monitoring of compensatory measures

Area of compensation

- The location and surface areas of compensation (including maps); and
- the former status and condition in the compensation areas.

Species and habitats subject to compensation

- The former status and condition in the compensation areas of the species and the habitats subject to compensation; and
- The explanation on how the proposed compensatory measures are expected to outweigh the adverse effects on the integrity of the site and will allow preserving the coherence of the Natura 2000 network.

Technical performance

- Techniques and methods implemented to put in place the proposed compensatory measures; and
- evaluation of their actual effectiveness.

Administrative provisions

- Completion of the administrative measures in place to ease the implementation of the compensatory measures (e.g. any planning safeguards); and
- identification of any additional administrative measure that may be required to guarantee the implementation of the compensatory measures to full effectiveness.

Timing of compensation

- Time schedule for the implementation of the compensatory measures (considering long-term implementation see section on cost, below), indicating when the expected results will be achieved;
- time schedule to convey monitoring results to the authorities that are competent in; and
- time schedule for takeover of the monitoring duties for the programme of compensatory measures.

Cost of compensation

- Real costs of the measures implemented;
- cost deviations as compared to the cost foreseen in the programme of compensatory measures; and
- any differentiation in time between costs depending on administrative coordination action (e.g. land purchase, one-off payments towards rights on resource use; and/or regular payments towards specific recurring measures).

Monitoring and evaluation of compensatory measures must also consider the development in time of adverse negative effects on Natura 2000 sites that were unforeseen in the Appropriate Assessment. The process of monitoring and evaluation

described above still needs to be performed with the best scientific knowledge and timeliness; it combines elements from:

- the monitoring of plan and project impacts under the SEA and the EIA Directives; and
- the monitoring of compensatory measures in Article 6(4) of the Habitats Directive.

Both monitoring programmes must be closely coordinated. This approach is consistent with the requirement in EU policy to coordinate monitoring programmes arising from different pieces of legislation, for improved efficiency in their administration.

In many cases, adaptive management may be required and secured through a legal agreement. This is particularly relevant where the scale of impact and therefore the scale of compensation is not clear (e.g. when compensating for 'coastal squeeze' impacts arising from coastal flood defence development landward of a protected site).



Table 18. Summary checklist of key issues to consider in Compensatory Measures

Action line	Description	Elements to include
Technical	Technical plan The activities to be undertaken with indication of their relevance according to: - the original site's conservation objectives; and - their relationship to the maintenance of the overall coherence of the Natura 2000 network is protected.	Objectives and target values aligned to the site's conservation objectives
		Description of the compensatory measures proposed
		Demonstration of the technical feasibility of the measures in relation to
		their conservation objectives - Ecological functionality
		Scientifically robust explanation of effectiveness of the activities in
		compensating the negative effects of the plan or project
		Prioritization of activities according to the nature conservation aims –
		Timetable aligned to nature conservation objectives
		Monitoring outline – per activity and globally
Financial	Financial plan	Budget breakdown by cost category
	The economic cost of implementation of the Programme of Compensatory Measures	Budget breakdown by implementation timetable
		Demonstration of the financial feasibility of the measures according to the
		timing required and schedule for approval of the funds.
Legal and administrative	Safeguards for nature conservation	Feasibility analysis of management rights: per type of activity and per
		suitable location (purchase, lease, stewardship, etc.)
		Demonstration of the legal and/or financial feasibility of the measures
		according to the timing required
		Identification of requirements for communication to the public
Coordination and cooperation - public authorities	Roles and responsibilities in implementation and reporting	Consultation, coordination and cooperation needs aligned to the timetable:
		agreement and approval of the compensatory programme by the Natura
		2000 authorities, assessment authorities, and the proponent
		Monitoring plan based on progress indicators according to the conservation
		objectives, with reporting schedule and prospective links to existing
		assessment and monitoring obligations

4. STRATEGIC PLANNING AND APPROPRIATE ASSESSMENT OF PLANS

4.1 Strategic planning

One of the most effective ways of avoiding potential conflicts with Natura 2000 sites and EU protected species is to consider new developments at a strategic planning level – for instance through a regional or national development plan for sectoral activities (e.g. in the energy sector, transport, extractive activities, aquaculture, etc.) – which allows for the sensitivities of Natura 2000 sites to be taken early into account. This will help to identify suitable or unsuitable sites for the development of the activities whilst also wherever possible minimising the risk of potential conflicts with Natura 2000 sites at the individual project level.

Strategic planning in this context is a process that involves the design of developments in an integrated way taking into account environmental conditions and requirements, in particular those related to nature conservation, which need to be considered and which can determine their feasibility and way of implementation.

Strategic planning can involve general spatial plans (e.g. land-use, physical, coastal zone management) or sector-specific plans (e.g. transport, renewable energy, forestry, agriculture, fisheries, mineral, water management), which usually must also comply with the provisions of f Article 6(3) and 6(4) of the Habitats Directive.

It allows consideration of the possible implications of planned developments on the Natura 2000 sites concerned from an early stage in the planning process, when more options are available. This has numerous advantages:

- It promotes a more interactive and transparent planning process and encourages early and iterative dialogue with relevant authorities, interest groups etc., which may significantly reduce the overall time required for the permitting procedure.
- It provides a broader and more suitable framework for consideration of potential cumulative effects with other plans or projects.
- It can help to avoid or reduce the number of potential site-specific conflicts at a later stage in the development process, when financial and legal resources have been committed and there is less room for manoeuvre.
- This also provides to developers relevant information about environmental concerns that may need to be considered already during the initial project concept.
- It can also be more cost effective in the long run. Where possible mitigation measures are factored in at an early planning stage, they are likely to be technically easier and cheaper to integrate.

- It can lead to the development of new, creative and innovative solutions and potential win-win situations.
- It can contribute to an improved public image of the project and the institutions responsible.

An example of Strategic Planning of highways in Austria including Appropriate Assessment if provide in the Annex.

4.2 Appropriate assessment of plans

Article 6(3) of the Habitats Directive applies to strategic/spatial plans or programmes, which provide a framework for future decisions that may affect Natura 2000 sites (e.g. regional spatial plans, national strategic plans).

Application of Appropriate Assessment at different levels of the planning and permitting process allows identifying potential effects on Natura 2000 and avoiding sensitive locations, e.g. locations where siting of the proposed activity might jeopardise Natura 2000 site conservation objectives.

It also allows better design of developments, which considers the potential effects (including cumulative effects) already from the outset and builds into the initial design plan the search for alternatives as well as a series of mitigation measures that eliminate, or at least significantly reduce the possible impacts on Natura 2000 to an acceptable level. In addition, it enables considering relevant issues on timing, consultation and information from public participation in an early stage.

The level of detail of the plan itself will determine the possible extent of the AA, but in all cases, it should allow identifying sensitive or vulnerable areas or other potential risks or conflicts that need to be taken into account at later stages in the planning process.

Appropriate assessment of plans should follow all the steps already described in this guidance document, which apply both for plans and projects (see section 3.X). However, there may be some particularities in the assessment of plans, which are described below.

An AA of a plan will be required when the screening indicates that the plan may have significant effects on Natura 2000 sites. Screening needs to consider all relevant details in relation to all plan stages and planned activities. It should determine whether the planned developments are likely to have a significant effect on any Natura 2000 site. It will be influenced by the nature and extent of the developments proposed in the plan. Screening can also be used to determine which planned activities have potential to have significant effects, and therefore the ones that require further attention at the AA stage.

- When the screening determines that an AA is required for a plan, it is advisable to identify more precisely what the AA must cover. This **scoping** helps identifying relevant issues of the plan and to define the level of detail that the AA should have, considering the type of deveoplments/activities of the plan and their potential impacts on the conservation objectives of Natura 2000 sites.
- The Appropriate Assessment should analyse the effect on the integrity of the Natura 2000 sites of the plan policies and proposals, alone and in combination with other plans or projects. The identification of adequate mitigation measures and the search for less damaging design solutions should be considered. This may also include the removal or replacement of certain elements of the plan which, due to their adverse effects, might not get approval later on.

The AA should be focused on the effects of the plan on the habitats and species for which the sites are designated, which must be recorded with a view to ascertain whether the plan will adversely affect the integrity of Natura 2000 sites concerned.

4.2.1 Approaches to undertaking the AA of Plans

The comprehensiveness of the assessment work undertaken should be proportionate to the geographical scope of the plan and the nature and extent of the effects identified. An AA need not be done in more detail, or using more resources, than what is necessary for its purpose. It would be inappropriate and impracticable to assess the effects in the degree of detail that would normally be required for the appropriate assessment at the project level. However, sufficient information must be obtained to allow the AA to be carried out; this may require some additional survey and impact analysis.

For more strategic plans, or strategies, where it is not possible to identify effects on individual sites, the analysis should focus on broad constraints and major risks; site-specific effects will then need to be analysed at the project level. Nevertheless, the underlying aim at all times is to avoid or remove any risk of adverse effect on the integrity of Natura 2000 sites, or to remove any reasonable grounds for concern that such an adverse effect may occur with the implementation of the plan.

Risks of adverse effects on the integrity of each of the Natura 2000 sites within the geographical scope of the plan should be identified applying the precautionary approach. Any indication through preliminary objective scientific evaluation that there are reasonable grounds for concern should be considered when identifying effects that may damage the integrity of the site.

Consultation with the appropriate nature conservation body to assess whether the plan is likely to affect the integrity of any Natura 2000 site should start as early as possible in the plan-making process.

If an adverse effect cannot be ruled out, the plan-making authority must address mitigating the effects, which may allow to reach a conclusion of no adverse effect.

The main options for addressing **mitigation** in a plan may be:

- Modify the plan policy or proposal;
- Re-design the proposal including re-location of certain elements of the plan;
- Implement a mitigation strategy on any of the elements likely to cause negative effects.

The proposal of mitigation measures can be further developed as part of the assessment process. The plan-making authority must verify that the mitigation will work in order to be able to conclude that, when it is taken, there will be no adverse effect on the integrity of the Natura 2000 site.

At a high level of planning (e.g. national/regional plans), mitigation (and compensation when needed) is likely to mean setting out the broad parameters that should be worked up in more detail at a lower level, where it should be possible to set out the ecological, locational, temporal, legal and financial parameters that need to be met by any planning application.

If the plan changes significantly at any time before adoption, the changes should be also addressed in the AA. As with other forms of impact assessment, the AA is an iterative process and the information gathered in respect of Natura 2000 sites, their conservation objectives, environmental sensitivities and existing environmental problems, should be used to guide the policies and objectives of the plan and to avoid impacts on the sites.

The assessment of the effects of plans under Article 6(3), and in accordance with applicable SEA procedures, can identify activities that are certain to harm the integrity of Natura 2000 sites. Such activities should be excluded from the plan at this point. The assessment could additionally provide an overview of which other activities may be harmful to protected habitats and species and thus better focus the assessment at project level.

It must be noted however that future projects to be implemented under a plan should be in line with the outcome of the Appropriate Assessment (AA) that was undertaken for the strategic spatial/sectoral plan, but this does not replace the proper AA for the concrete projects.

The AA of plans may indicate the scope for the AA of single projects and for the assessment of cumulative effects. For example, at the stage of AA scoping of a plan of extractive activities alone, the main network of access roads opening up access to

several locations for resource extraction is very likely to be considered an integral part of the plan's AA. Later in developing the plan, the AA of a single project for resource extraction that is part of this plan will look into detail to the likely effects of a secondary route granting access only to the individual location of this project. At the stage of project's AA scoping, it may be useful to determine the range or extent to which the wider network of access roads may require consideration for cumulative impacts, for example if populations of species protected under the Habitats Directive are not able to withstand the habitat fragmentation and derived pressures.

There are clear links and analogies between AA of plans and SEA, which are covered in the section 5. They are parallel but separate processes that usually overlap but also differ in some key aspects. AA is narrower in focus and requires more rigorous tests, with the conservation and protection of Natura 2000 sites at its core. The findings and recommendations of AA are overriding and must be incorporated into and be part of a plan that is presented for adoption.

4.2.2 Identifying suitable locations

Identifying suitable locations or excluding unsuitable locations can be carried out in the Appropriate Assessment of plans. It needs to be based on a proper analysis of vulnerabilities to the planned activities of the habitat types and species present in the whole area where the development is proposed.

Sensitivity mapping is a method often used to identify areas which may be particularly sensitive to development of sectoral activities. It is often used, for instance, to identify sensitive bird areas that may be unsuitable to wind energy developments, to identify potential conflict areas for extractive activities, etc.

Box 21. Sensitivity mapping

Environmental sensitivity analysis provides a framework for systematically and objectively determining the potential for significant environmental impacts. It is based on the analysis of sensitivity of the receiving environment in relation to impacts or human-induced change.

Sensitivity mapping is an objective and straightforward method of identifying areas which may be particularly sensitive to some developments, considering the natural assets present. It can be used in land—use planning and strategic planning for different types of developments (e.g. wind farms, minerals extraction, etc.).

This method usually operates with maps that can be overlaid to predict possible interactions of certain activities on natural features that are vulnerable to the effects of those activities. Given that sensitivity is context- and spatially-specific, Geographic Information Systems have been applied to develop tools to analyse it.

Environmental sensitivity mapping tools usually operate on a GIS system that can combine and analyse different maps and integrate different parameters of sensitivity,

vulnerability, etc. Simple mapping tools can be developed as pre-planning tools for industry, government and conservation practitioners.

Sensitivity mapping tools can be made available online. A web tool enables a rapid spatial examination of environmental sensitivities and potential for land-use conflicts, which can support Strategic Environmental Assessment and Appropriate Assessment and, ultimately, informed planning and decision-making.

However, its full reliance on publicly available spatial datasets renders completeness and resolution issues.

E.g. See Bird sensitivity to wind energy in Ireland in: https://maps.biodiversityireland.ie/Map/Terrestrial/Dataset/155

4.3 Consideration of alternatives, IROPI and compensation in strategic planning

As mentioned above, strategic planning allows for the search and assessment of different alternatives for the components of the planned development so that the most favourable and least damaging alternatives for Natura 2000 can be selected. Alternatives in this context usually involve location, routing, different processes, modification of some of the planned activities and developments, etc.

A key benefit of the plan-making process is the ability to consider less damaging solutions to meet the plan's objectives. This iterative process should be fully utilised to provide solutions that protect Natura 2000 sites and ensure a sustainable development of activities that are necessary to meet society's needs.

Consideration of IROPI may be inherent to the strategic planning of certain policy areas (e.g. flood risk management), which are relevant to human health, public safety or the protection of public goods. In case of activities likely to be justified for Imperative Reasons of Overriding Public Interest (IROPI), the need for considering alternatives and compensation can thus be taken into account at an early stage in the planning process.

Box 22. Example Flood risk management schemes in UK.

Possible impacts on Natura 2000 area are identified as early as possible. This involves assessment of long-term strategic plans, even before specific locations and scheme details are known. An example of this is the Humber flood risk management strategy, which sets out the flood management policy at an estuary scale:

https://www.gov.uk/government/publications/humber-flood-risk-management-strategy

Such an approach is able to streamline the appropriate assessment process. While the lower tier schemes will require their own appropriate assessment, they may nevertheless be able to rely on the IROPI agreed at the estuary level, where the scheme is consistent with the estuary policy (e.g. 'hold the line') and no additional impacts are identified or the scheme promotes a different policy to that set out in the estuary Strategy, a

4.4 Consultation and dialogue in strategic planning

Recognising the benefits of dialogue and consultation, more and more planners are now adopting a more interactive and transparent planning process that encourages early consultation with environmental authorities and stakeholders as an important element for ensuring that acceptable and sustainable solutions are found.

Consultation in strategic planning is equally important in reaching a common understanding of the issues at stake and encouraging cooperation in the search for solutions (possible alternatives or mitigation measures) for the ecological effects identified in the assessment of the plan.

Consultation and dialogue with nature authorities from the outset is essential to identify possible risks and conflicts with sensitive areas and species, to better understand the vulnerability of habitats and species to the planned developments and to carry out an appropriate assessment where needed.

Participation is important in the definition phase of the plan and during the interactive and iterative process of working out realistic alternative solutions for problematic areas. Identification of other stakeholders concerned to involve in the consultations is also important to ensure that the strategic planning process takes into account all the relevant knowledge and information about any potential conflicts.



5. LINKS WITH OTHER ENVIRONMENTAL ASSESSMENT PROCEDURES: EIA, SEA, WFD

5.1 Streamlining environmental assessments

Several pieces of EU legislation contain provisions on environmental assessment procedures. Besides the Habitats Directive, this is in particular the case of the Environmental Impact Assessment (EIA) Directive, the Strategic Environmental Assessment (SEA) Directive and the Water Framework Directive (WFD, Art. 4.7).

The integration and coordination of environmental assessment procedures set under various pieces of EU legislation provides an essential contribution to the improved efficiency of administrative processes.

The EIA Directive, as amended in 2014, includes provisions for streamlining the assessment procedures related to environmental issues required under various EU directives, including the Habitats Directive, the SEA Directive and the Water Framework Directive. It requires specifically that Member States should ensure that coordinated and/or joint procedures fulfilling the requirements of these Directives are provided, where appropriate and taking into account their specific organisational characteristics (article 2.3 of the EIA Directive).

The Commission has issued a guidance document on streamlining environmental assessments referred to under Article 2(3) of the Environmental Impact Assessment Directive²⁶.

This section considers ways of streamlining the AA and the EIA/SEA procedures, taking into account in particular the provisions of the new EIA Directive, and clarifies similarities and differences between the assessment procedures laid down in the SEA and EIA directives and those under the Appropriate Assessment in accordance with the Habitats Directive (section 5.2).

Such streamlining can also cover the assessments required under the Water Framework Directive (Art. 4.7), which are dealt with in a separate section (section 5.3).

It is important however to bear in mind the differences of the assessment procedure under the Habitats Directive with the ones foreseen under the EIA and SEA Directives or Article 4.7 of the WFD even if they should be coordinated where appropriate.

5.2 Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA)

See also: http://ec.europa.eu/environment/eia/pdf/PCI_guidance.pdf

²⁶ Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C .2016.273.01.0001.01.ENG&toc=OJ:C:2016:273:TOC

The Appropriate Assessment is often undertaken as part of the EIA or SEA process, or is carried out alongside it, and its results are included in the relevant EIA or SEA reports. This approach can help to streamline the administrative steps involved in obtaining development consent under EU environmental legislation and increase the efficiency and quality of the overall planning process. The revised EIA Directive²⁷ provides for the use of coordinated and/or joint procedures in such cases. The possibility for coordinated or joint procedures is also provided in the SEA Directive²⁸.

However, specificities in terms of scope and standards to be applied, as well as binding results of the assessments, need to be respected. It is necessary to distinguish the different meanings of the assessments and the terms used in both directives: significant adverse effects in the sense of the EIA are not the same as significant effects in the – more precautionary – sense of an AA.

AA is focused on the conservation and protection of Natura 2000 sites and requires more rigorous tests. Its results are binding and determine whether the plan or project can be adopted or not. The competent authorities can agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site. On the other hand, the results of the EIA or SEA shall only be taken into account in the development consent procedure.

It is also important to recognise other procedural differences with Article 6 of the Habitats Directive and the implementation of the related provisions under the EIA Directive, such as the consideration of "compensation measures" within the overall scheme of the EIA Directive compared to that under article 6.4 of the Habitats Directive. Key similarities and differences between Appropriate Assessment and EIA and SEA are set out in the Annex to this guidance document.

This does not mean that appropriate assessments may not be carried out in parallel, or together, with EIA or SEA and the different assessments should complement each other, if they are required. By assessing environmental effects for different objectives in parallel there might be synergy effects.

Key conditions for effective streamlining of AA and EIA/SEA assessments include:

- Effective cooperation between responsible authorities.
- Adequate scoping, which is a common practice in the EIA and SEA procedures.
- Close cooperation and proper information exchange between the experts elaborating the EIA/SEA assessment and the experts conducting the AA (e.g. information about noise, air, water, soil issues by the respective expert to the expert in biodiversity).
- Quality control by the competent authority.

²⁷ Directive 2011/92/EU as amended by Directive 2014/52/EU. Commission guidance on streamlining environmental assessments conducted under Article 2.3 of the new EIA Directive is available on http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016XC0727(01)&from=EN

²⁸ Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive). Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32001L0042

Clear and distinct conclusions

In all cases it is essential that the Appropriate Assessment remains clearly distinguishable and identifiable in the impact assessment report, or is reported on separately so that its findings can be differentiated from those of the general EIA or SEA. This is necessary as there are a number of important distinctions between the EIA/SEA and Appropriate Assessment procedures which means that a SEA or an EIA cannot replace an Appropriate Assessment as neither procedure overrides the other.

Developing efficient procedures where complementary processes and methodologies are coordinated is as necessary as considering the elements that must be differentiated in joint or coordinated procedures.

Several provisions of the EIA Directive and the SEA Directive are relevant to the Article 6(3) Appropriate Assessment and can support streamlined implementation even though they are not directly required by the Art. 6(3) of the Habitats Directive. Some of these elements are described below:

<u>Scoping</u>: "the competent authority shall issue an opinion on the scope and level of detail of the information to be included by the developer in the environmental impact assessment report, where required" (art. 5.2, EIA Directive).

Ensuring quality and completeness of the assessment: "the developer shall ensure that the environmental impact assessment report is prepared by competent experts; the competent authority shall ensure that it has, or has access as necessary to, sufficient expertise to examine the environmental impact assessment report; and where necessary, the competent authority shall seek from the developer supplementary information, which is directly relevant to reaching the reasoned conclusion on the significant effects of the project on the environment" (art. 5.3, EIA Directive).

Consultation and public participation: "Member States shall take the measures necessary to ensure that the authorities likely to be concerned by the project by reason of their specific environmental responsibilities or local and regional competences are given an opportunity to express their opinion on the information supplied by the developer and on the request for development consent.

In order to ensure the effective participation of the public concerned in the decision-making procedures, the public shall be informed whether by public notices or by other appropriate means such as electronic media where available, electronically and by public notices or by other appropriate means, of the following matters early in the environmental decision-making procedures and, at the latest, as soon as information can reasonably be provided..." (art. 6, EIA Directive).

Similar provisions are included in the SEA Directive (art. 6): "the authorities to be consulted include those which, by reason of their specific environmental responsibilities, are likely to be concerned by the environmental effects of implementing plans and programmes. Public consultation shall also involve the public affected or likely to be affected by, or having an interest in, the decision-making subject

to this Directive, including relevant non-governmental organisations, such as those promoting environmental protection and other organisations concerned.

Member States shall ensure that their conclusions on whether plans or programmes are likely to have significant environmental effects, including the reasons for not requiring an environmental assessment, are made available to the public" (art. 7, SEA Directive).

Mitigation measures implementation and monitoring: "Member States shall ensure that the features of the project and/or measures envisaged to avoid, prevent or reduce and, if possible, offset significant adverse effects on the environment are implemented by the developer, and shall determine the procedures regarding the monitoring of significant adverse effects on the environment" (art. 8, EIA Directive).

The SEA Directive also includes provisions for the monitoring by the Member States of 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" (art. 10, SEA Directive).

<u>Conflict of interest</u>: "Member States shall ensure that the competent authority or authorities perform the duties arising from this Directive in an objective manner and do not find themselves in a situation giving rise to a conflict of interest. Where the competent authority is also the developer, Member States shall at least implement, within their organisation of administrative competences, an appropriate separation between conflicting functions when performing the duties arising from this Directive". (art. 9, EIA Directive)

<u>Transboundary impacts</u>: Article 7 of the EIA Directive sets the provisions for the assessment of transboundary projects, including the requirements to inform another Member State where likely significant effects of a plan or project are envisaged on that MS. The MS that may be affected can then participate in the assessment if it wishes to do so. The European Community has signed the Convention on Environmental Impact Assessment in a Transboundary Context. In order to coordinate and facilitate the assessment procedures for cross-border projects, and, in particular, to conduct consultations in accordance with the Convention on Environmental Impact Assessment in a Transboundary Context of 25 February 1991 (Espoo-Convention), the Member States concerned may set up, on the basis of equal representation, a joint body. This is also highly relevant in terms of overall goals of the Birds and Habitats Directives to maintain or improve the conservation status of species and habitats of Community interest. The plan or project with the adverse effects could jeopardize this goal also in neighbouring member state(s) which makes the transboundary consultations during the Appropriate Assessment an important preventive tool.

Transboundary consultations are also envisaged and regulated under the SEA Directive (article 7).

In the case of coordinated or joint procedures it could make sense to carry out the Appropriate Assessment early in the process, to avoid a costly and lengthy EIA/SEA

procedure in cases where the appropriate assessment would lead to a negative decision on the planned activity.

5.3 Assessments under the WFD (Article 4.7) coordinated or integrated with the Article 6(3) procedure

There are strong links between the Water Framework Directive and the Habitats Directives. They both operate at least in part on the same environment – that of aquatic ecosystems and terrestrial ecosystems and wetlands directly dependent on them – and they have broadly similar ambitions in terms of aiming to ensure the non-deterioration and to enhance the ecological condition of aquatic ecosystems. Where appropriate, they should therefore be implemented in a coordinated way to ensure that they operate in an integrated manner²⁹.

Like the Nature Directives, the WFD has specific provisions for assessing new developments on water bodies. According to Article 4.7 of the WFD, exemptions can be approved by the authorities for new modifications and sustainable human development activities that result in the deterioration of the status of the water body or that prevent the achievement of good ecological status or potential, or good groundwater status under certain conditions³⁰.

According to article 4 (8) of the WFD member states shall – when applying article 4 (7) of the WFD – ensure that the application is consistent with the implementation of other Community environmental legislation. In other words, if the project is granted a derogation under Article 4 of the WFD, it must still comply with Article 6(3) & (4) of the Habitats Directive where they apply.

If the development potentially affects both a WFD objective and a Natura 2000 site then both the Article 4(7) procedure under the WFD and the Natura 2000 assessment procedure under Article 6.3 of the Habitats Directive must be undertaken (ideally in a coordinated or integrated manner). Each assessment has a different legal focus: one will assess if the project is likely to compromise the primary objectives of the WFD, the other will assess whether it will adversely affect the integrity of a Natura 2000 site. However, this does not prevent certain aspects of the assessment being coordinated, e.g. through surveys and consultations.

Whilst the integration of AA procedures with procedures under the EIA directive is mandatory, it is only discretionary for the WFD. Nonetheless, a number of MSs have already provided for or are in the process of establishing integrated procedures for cases where EIA, AA and "the WFD 4.7 assessment" are required. Streamlining these

³⁰ For jurisprudence on the application of Article 4.7 see Court rulings in case C-461/13 and C-346/14.

²⁹ See the Commission FAQ on the WFD and Nature Directives: http://ec.europa.eu/environment/nature/natura2000/management/docs/FAQ-WFD%20final.pdf

assessments is encouraged in EU guidance on the implementation of the WFD³¹.

Referring to the approach and different steps for an "Applicability Assessment" in relation to WFD Article 4(7), equivalent steps are required under the EIA and the Habitats Directives (where they apply) that could be taken alongside with the steps under the WFD. This refers particularly to "Screening", "Scoping" and the necessary data collection. Such a streamlined approach can lead to significant cost and time savings, notably in relation to the data collection stage which can be jointly performed once the data requirements under each Directive are clarified during the previous steps.

However, it should be borne in mind that the focus of the various tests is quite distinct in each Directive, so the various steps of the process should be carried out in accordance with the requirements for each Directive. Where possible, synergies could still be used, for instance regarding the search for alternatives or mitigation measures.

If the conditions of one Directive are fulfilled but not of the other, then the authorities may not authorise the project because in such a case the project would still infringe EU legal provisions. Instead, it should be examined whether amendments can be made to the project so that it satisfies the requirements of all relevant directives.

Figure 2 outlines the steps for an "Applicability Assessment" in relation to WFD Article 4(7), and the equivalent steps under the EIA and Habitats Directives. Below, the main requirements under the Habitats Directives, and the relationship and linkages with Article 4(7) are described in more detail.

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³¹ See in particular: Common Implementation Strategy for the Water Framework Directive and the Floods Directive. Guidance Document No. 36. Exemptions to the Environmental Objectives according to Article 4(7). Available at: https://circabc.europa.eu/sd/a/e0352ec3-9f3b-4d91-bdbb-

Proposed new modification / alteration / new sustainable human development activity * Annex I of the EIA Directive lists projects for which the EIA is mandatory WFD HD EIA* No further Could there be any No AA required. assessment required. Screening of Annex II direct or indirect effect Likely significant effects Authorisation may be Screening Authorisation may be No EIA required. projects. on the different quality on a Natura 2000 site? granted under the granted according to Is an EIA required? elements? the WFD. √ Yes √ Yes Yes Which information Identify conservation needs to be collected to objectives of the site What should be covered Scoping identify the significance and species and habitats by the environmental to be considered in the of effects on the quality information? elements? assessment. Joint/coordinated data collection Data Could it cause No 4(7) test required. Appropriate Assessment collection and deterioration / Authorisation may be in the light of the Elaboration of EIA compromise the assessment granted according to conservation objectives report. achievement of good of the Natura 2000 site. status/potential? Yes Individual test Integrity of the site under each affected? granted Directive Article 4(7) Test and Consultation and Yes decision under the WFD. decision under the EIA. Article 6(4) test and decision under the HD.

Figure 2: Streamlining of assessments under the WFD, HD and EIA Directive

<u>Source:</u> Common Implementation Strategy for the Water Framework Directive and the Floods Directive. Guidance Document No. 36. Exemptions to the Environmental Objectives according to Article 4(7)

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