ABSTRACT

In many parts of the world, port development and economic activities regularly come into conflict with the desire to conserve valuable habitats. Europe is no different and in many cases this has led to wide-ranging European Union legislation to protect and conserve fauna, in particular birds, flora and certain habitats. A difficult situation arises when a port authority, trying to plan ahead, purchases land for future expansion. This land may not be used immediately and therefore lies fallow allowing habitats to evolve. These habitats are then, sometimes unbeknownst to the port authority, classified as “special area of conservation” and the port is not allowed to use the land for economic and commercial expansion, as was its original intention.

Starting in 1979, EU habitats legislation expanded considerably, but not necessarily with clarity. After more than 25 years of evolving legislation, which includes designating certain sites as Special Protection Areas (SPAs) and others as Special Areas of Conservation (SACs), the European Dredging Association (EuDA) Environmental Committee has made an evaluation of the impact these directives are having on port expansion, including several important case studies. In particular, Article 6 of the Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) and its impacts are examined.

INTRODUCTION

Many ports in Western Europe are situated at the mouth of estuaries, or along the coastline, near valuable nature sites, wetlands or bird resting areas. In particular estuaries are very valuable from a biodiversity point of view. As earth meets water, as the river meets the sea, as fresh water mixes with salt water and as the tidal movements create a very dynamic environment, one typically finds a variety of wetlands (salt marshes, mudflats…) in combination with a system of channels and sandbanks that offer very attractive biotopes. Therefore it is not a surprise that port development and economic activities at large regularly come in conflict with the desire to conserve these valuable habitats. In the European Union this has led to the adoption of wide-ranging legislation to protect and conserve fauna, in particular birds, flora and certain habitats. The introduction of this legislation has not been without problems.

Imagine a port authority with the foresight to plan for future growth by already buying a piece of land adjacent to the port and destined for future use. As this land is not immediately necessary at the time of purchase, it is left empty to rest. Over the years a habitat develops, the flora becomes more interesting, small wildlife settles in and birds flourish. Then new environmental legislation becomes applicable and the site is suddenly classified as “special area of conservation”. By the time the port submits its plans for expansion, it meets strong resistance. The arguments to support the economic significance, the regional growth, and the employment opportunities need to be presented in a special format in order to stand a chance. The port authority faces this situation initially with astonishment: In many cases its opinion had no influence on the designation of the site as valuable habitat, the planned future use of an expansion area has not been taken into consideration and – if everything goes ultimately according to plan – the additional costs for procedural matters, for compensation...
and for resulting delays, fall entirely on the project developer. In this article the evolution and implications of the habitats legislation are reviewed in some detail.

**EUROPEAN NATURE CONSERVATION REVIEWED**

The European Union has adhered to a number of International Conventions on Biodiversity and Nature Protection. However, the centrepiece of environmental legislation to protect habitats, flora and fauna has become the combination of the Birds and Habitats Directives. It has taken years before the “bite” of these directives was effective: Their full implementation has taken longer.

In 1979 the European Community adopted the Birds Directive 79/409 on the conservation of wild birds. The aim was to protect all wild birds in the Community by restrictions on capturing, hunting and trading of birds and by the creation of protected areas or biotopes. For a list of rare birds or birds under threat Special Protection Areas (SPAs) were to be designated.

In the beginning, this piece of European legislation was hardly noticed by the Member States and implementation was particularly slow. The Directive required full implementation by 1981, but even some 20 years later, in 1998 the Commission observed that only Belgium and Denmark had fully complied with the requirements. The situation has gradually improved when the Habitats Directive 92/43 was adopted in 1992 and became fully operational in 1994. This Directive calls for the establishment of a network of Special Areas of Conservation or SACs, which altogether form “a coherent European ecological network” designated as Natura 2000. The preliminary list of candidate sites was due for 1998 and should have resulted in a final Natura 2000 scheme with protection under the respective national laws not later than 2004. In actual fact, as of 2007 the list of preliminary designated sites is almost complete, but the full enforcement provisions in all Member States may not be in place before 2010. Nevertheless, in the meantime the legislation does apply to sites that have been nominated as candidates.

The link between the Birds Directive and the Habitats Directive is created by integrating the decision-making procedure on allowable activities in Natura 2000 sites into a single article of the Habitats Directive (Article 6, see box below), which thus incorporates the provisions of the Birds Directive.

The consequences of the delays in effective implementation is that the transition period between adopting the Birds Directive and the full implementation of the Habitats Directive spans some 30 years, a period during which there is at least some legal uncertainty as to which regulation is in...
place in which Member State and in what form. As described here, this is one of the root causes for the problems encountered by ports when they need permits for their expansion projects.

THE DECISION-MAKING PROCEDURE

The Article 6 of the Habitats Directive is reproduced in full in the box on page 4. This Article lies at the heart of the decision-making procedure. It applies once a site is candidate for the Natura 2000 network and when a proposed project – in this case a port expansion project – affects or could affect the integrity or the conservation objectives of such a site. Unfortunately the wording of Articles 6.3 and 6.4 is such that the precise meaning of these articles and their correct interpretation have been the subject of much analysis, debate, Guidance documents and several court cases. The generality of the wording has led to divergent interpretations and to significant delays in obtaining planning permits for port expansion projects. This will be illustrated with some case histories.

Where the site concerned hosts a priority natural habitat type and/or 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.

The logic diagram resulting from the provisions in Article 6 is presented in a simplified form in Figure 1.

![Figure 1. Simplified logic of Articles 6.3 and 6.4 of the Habitats Directive.](image-url)
When an appropriate assessment shows that a project may have significant effect on the Natura 2000 site(s) in question, the possible outcomes of the decision logic are defined in four categories. These options must be taken in sequence: mitigation measures – alternatives – compensation measures – or cancellation of the project. One cannot jump to conclusions and propose for example a compensation package before the other options have been properly explored. Although the process may seem clear and straightforward, the reality has been rather different.

As to the interpretation of the text of the Directive, in particular Article 6, long-running debates have taken place on the meaning of the various terms:

**Appropriate assessment**
One opinion by the European Court of Justice (ECJ) needs particular attention, even though it does not involve ports. This concerns the preliminary ruling by the ECJ (Case C-127/02) on a question raised by the Dutch Administrative Court on how to interpret specific aspects of Articles 6.2 and 6.3 in connection with a permit for cockle fisheries. The questions raised were:
- What constitutes a plan or project under Article 6.2?
- When is appropriate assessment called for under Article 6.3?

The ECJ developed lengthy considerations, but eventually concluded that:
- When an activity at or near a Habitat site (SPA in particular) is subject to receiving a periodic permit and when it is not directly necessary for the management of the site, but likely to have a significant effect there on, it must each time be demonstrated that the integrity of the site is not negatively affected and that deterioration or disturbances should be avoided.
- In order to do so, an appropriate assessment must be carried out which should demonstrate, on the basis of scientific criteria, that the conservation objectives are not eroded.
- Authorisation may thus only be granted if, on the basis of the appropriate assessment, it has been demonstrated that the activity will not adversely affect the integrity of the site. This is the case where no reasonable scientific doubt remains as to the absence of negative effects.

The judgment gives the maximalist interpretation of the key terms of “appropriate assessment” and “certainty on the basis of scientific knowledge”.

The key is that considerable scientific evidence must be provided. If this is lacking, or if the scientific facts are simply not available, the plan or project should not receive the green light. This is clearly a “no, unless” reasoning; the Directive itself leaves the door open for a “yes, unless” provision which would take into account other considerations of an economic or social nature. However, the balance between conservation and economic goals comes into play only under Article 6.4. The ECJ in its interpretation of Article 6.3 implicitly gives priority to environmental objectives.

Left unchallenged this interpretation could have far-reaching consequences for maintenance and periodic activities that are associated with the navigation in estuaries or other such designated areas and which are vital activities for navigation and transport. Under this ruling an authority might impose annual permits for maintenance dredging with the need to submit each time an appropriate assessment. In most member states the authorities will not follow this direction, but the ECJ judgment keeps the door open.

The appropriate assessment is thus an impact evaluation, based on solid scientific evidence, to assess the possible significance of a plan or project on the environmental and ecological status of Natura 2000 site(s).

The methodology can be based on the established Environmental Impact Assessment, but the actual scope may be somewhat restricted.

**Significant effects**
The significance of an impact on a designated site must be seen in the light of the conservation objectives of that particular site:

The purpose of the Habitats legislation is to create a favourable conservation status for flora, fauna and biota under threat. It seeks to achieve this by special conservation measures of the species and habitats under threat as listed in the Annexes to the Directive. For each designated site the species and habitats for which protection is sought, are specifically identified. The significance of the effects of a plan or project is estimated by the potential that the site will deteriorate, that disturbances occur which lead to destruction or displacement of populations or, more generally, that the integrity of the site is under threat.

This last criterion could be applied in particular to SPAs where specifically listed species find shelter, but where other activities may also take place. This is often the case with ports, where areas within the port are designated as SPA for species of rare birds, and where the integrity of corridors or flight paths must be respected also when further port development takes place.

In all cases should one evaluate the impact in light of the total site area or the total population on site in order to determine whether or not the impact is significant.

**What are mitigation measures?**
Mitigation measures are measures aimed at minimising or even eliminating the negative impacts of a plan or project during or after its implementation. Mitigation measures are already considered in the design stage, or at the latest once a significant effect has been identified and indicates that the project must be modified. These measures could be proposed by the project owner or by the competent authority.

A distinction should be made between fairly simple and inexpensive measures that may be adopted anyway, even if the significance of the effects has not been established, and expensive infrastructure provisions requiring significant financial investment.

Examples of relatively simple mitigating measures are:
- Respect time (seasonal) windows (e.g. not working during the breeding season);
- Adapt the tools to reduce impact (e.g. special dredgers with reduced loss or reduced noise level);
- Identify “no go” zones within the site to which species can safely withdraw.
Examples of complex (and expensive) measures are:

- Building tunnels for passage underneath a site;
- Building flyovers (roads) for use by wildlife in order to maintain the integrity of a site;
- Creating protective barriers (walls, dykes) to reduce hindrance from a nearby centre of activity.

**Difference between mitigation and compensation**

While mitigation measures seek to minimise the effects of a project, the compensation measures *sensu stricto* seek to compensate the negative effects on the site which undermine the conservation objectives. In other words, a habitat that would be affected by construction should be replaced by a similar habitat type in the vicinity of the site or a shelter should be provided for a protected species that is chased from the site.

Mitigation measures should be considered as early as possible in the project design, but a compensation scheme can only be proposed once all other measures have been explored. It is possible that mitigation measures are put forward, but that their conservation effect is insufficient; in such a case a combination of mitigation and compensation would be a possibility.

**What represents valid Imperative Reasons of Overriding Public Interest (IROPI)?**

The Commission, in its Guidance, observes that "*it is reasonable to consider that the imperative reasons of overriding public interest, including those of a social or economic nature, refer to situations where plans or projects prove to be indispensable*":

- within the framework of actions or policies aiming to protect fundamental values for citizens’ lives;
- within the framework of fundamental policies for the State and society;
- within the framework of carrying out activities of an economic or social nature, fulfilling specific obligations of public service”.

It should be emphasized that the IROPI test refers to public interests; if an economic project of only private interest would negatively affect a Natura 2000 site, it would stand no chance of approval. The IROPI test has been called for in different fashions, but it is fair to say that in all the successful cases the regional development perspective and the employment opportunities have been cited as the major reasons.

**Criteria for compensation**

The criteria that can be implicitly derived from the legislation or from the Guidance are as follows:

- The habitat that would be destroyed should be replaced by a *similar habitat type in the vicinity of the site*.
- There must be a reasonable assurance that the compensation area will take over *the functions of the impacted site*. For protected birds species this may often be possible, but things get tricky when, for instance, a rare orchid that only grows under very specific conditions needs to be compensated for.
- Another example: The destruction of a specific wooded habitat cannot be compensated by planting just any variety of common tree in the vicinity. (criterion: *like-for-like*).
- A further consequence of this reasoning is that, in order to take over the habitat “functions” in an orderly manner, the compensation should preferably be in place when the project construction work starts.

The objections of the marine construction sector to these requirements is often that building in a very dynamic environment, such as found in estuaries, influences the habitat, but these effects may very well be positive. Working on a navigation channel may lead to a shift of a sandbank or to reduction of mudflats. How to compensate for such effects? Creating new valuable sites in a coastal environment is often very well possible, but chances are that the biotope will be rather different from the one lost in the project. Strictly speaking, this would be in conflict with the requirements of the Directive.

**CASE STUDIES ON PORTS**

**Mitigation measures: Vuosaari Port, Finland**

The Vuosaari port development aims to replace the two cargo ports in the metropolitan area of Helsinki (Figure 2). The project is socio-economically very profitable and logistically well based. Planning of this port started back in 1992, well before any nearby sites had been designated as SAC or SPA. However, a SAC situated near the future port site was proposed in 1998 and is now part of the Natura 2000 network (Figure 3). Construction of the port started in 2003.

![Figure 2. Artist’s rendering of Vuosaari Port near Helsinki, Finland.](image)

![Figure 3. Location map of the Mustavuori woodland and Östersundom bird wetlands were proposed by the Finnish authorities as a Natura 2000 site in order to maintain or restore a favourable conservation status in the vicinity of the Vuosaari port.](image)
Even though this Natura 2000 designation was made well after the project preparation, the port authorities have cooperated closely with the environmental authorities to review the impact on the project. The solution has been to build tunnels under the Natura 2000 site for road and train connections to the port and to construct a 200 m rail bridge across a nearby bay that is part of the network. The train goes into a tunnel immediately after the bridge and surfaces at the north border of the Natura 2000 area. These mitigation measures avoid any direct impact on the Natura sites and thus avoid the need for compensation.

The costs associated with this mitigation are very high. The total project costs amount to about € 600 M, of which some € 150 M are due to mitigation measures. Nevertheless, the project has been challenged in 20 administrative procedures before Finnish courts, before the European Commission, and even via a petition to the European Parliament. All arguments claiming impact on the nearby SAC have been rejected by the Finnish Supreme Administrative Court.

Still the impact in this case are the extremely high costs of the mitigation package and also the lengthy challenges in court that cause expense as well as delays resulting from these complaint procedures. The nearby presence of a Natura 2000 site has been abused by the plaintiffs as an excuse for claiming financial compensation. The concern is that the habitats legislation does not prevent this abuse and can thus cause project delays that are the result of opportunistic behaviour.

Compensation measures: Le Havre 2000

In the background of the planning of Port 2000 at Le Havre in the mouth of the Seine estuary looms a long-running dispute between the European Commission and the government of France about the obligation to designate large parts of the Seine estuary as SPA. The EC considered that France had reserved far too much area for future industrial development and not enough for conservation purposes. Against this background, planning for Port 2000 started in 1994 without the full consideration of the impact of EU habitat legislation.

The port’s impact on the estuary is without a doubt significant. Once France had been condemned by the ECJ for insufficient habitat protection of the Seine estuary in 1999, the authorities adopted a holistic view and developed a more integrated approach to the whole area (Figure 4). This included a large package of compensation measures under Article 6.4 to offset the negative impact of the new port on the conservation objectives. The estuary had been under severe environmental strain in any case and the compensation measures view restoration of the estuary functions.

The package was reviewed by and agreed with the European Commission (Figures 5 and 6). It consists of the following elements:

- **Mudflats.** Currently only some 300 ha of mudflats remain in the estuary mouth. The dissymmetry of the tidal currents and the swell action tend to fill the estuary with (marine) sediment; this also causes sedimentation of the mudflats (Figure 7). Experiments were carried out to determine the most favourable location for creating new mudflats. Dykes had been created in the estuary outlet to control sedimentation;
these dykes were opened at a few locations and settling of the sediment from upstream was stimulated via the construction of small channels and catchment dams.

- **Resting area for birds.** The construction of the port caused the destruction of 30 ha SPA. This has been compensated by reconfiguring 40 ha of nearby ‘hunting pools’ into resting area. In addition 3 artificial islands will be built in the estuary mouth for resting and nesting of birds (Figure 8).

- The infrastructure connecting the port with the hinterland could have destroyed a valuable site with various rare and protected species of fauna and flora. The site was spared by rerouting the connections and special conservation measures have been taken for this site (70 ha).

In addition a number of projects were financed to support the environmental management of the estuary; this concerns notably a fishing observatory. Furthermore, a comprehensive monitoring programme has been put into operation and biannual reviews are prepared. The results are used for keeping the European Commission informed.

The unrealised project at Dibden Bay
In the 1990s the Port of Southampton developed plans for port expansion at the adjacent Dibden Bay site. The project was intended to build a new container terminal with a quay length of 1850 m.

This proposal has been scrutinised in great detail, but was eventually rejected. A number of factors played a role in this decision and the motivation of the formal decision is helpful for understanding the reasons.

The proposal was the subject of a full-blown public enquiry. The legal basis to take into consideration was the UK policy on port development as laid down in the Harbour Act (1964) and related provisions, but also the transposed Habitats Directive (Habitats Regulation of 1994). The planning for this project started in 1995, when there was no experience yet with the impact of the EU Habitats legislation and when the designation of Natura 2000 sites had not been completed. The formal enquiry, hearings and reporting lasted from 2000-2004, when the final decision to reject the planning application came through.

The proposed container terminal at Dibden Bay would have been situated near the Solent and Southampton Waters, which is a Ramsar site and has been classified as a bird sanctuary (SPA). The Solent Maritime and the nearby River Itchen have been designated as SACs, while the nearby New Forest is a highly protected (UK) Heritage Area. Moreover, the terminal would be built on land created from dredging sites that in the meantime also had developed into a bird paradise.

In hindsight it is clear that the project developers did not adequately account for the provisions of the new legislation. The following quotes are taken from the Secretary’s of State Decision letter on the proposed project:
There have been many lessons learned about compliance with the EU Habitats Directive in the course of the last decade. The specific lessons include:

- The wording of Article 6 of the Habitats Directive defines the decision procedure. Vague and complex wording has led to divergent interpretations and time-consuming disputes.
- The very long period of transposition into national law and its effective implementation has caused long learning periods and has added to the legal uncertainty.
- The administrative and procedural issues resulting from habitats legislation have caused considerable delays for many port projects and has even caused cancellation of several proposed projects.
- The cost of compensation schemes, when deemed necessary, ranges between 5 and 10% of the overall project costs.

General findings involving port development and environmental concerns include:

- There is increasing friction and conflict between port development, environmental protection and conservation goals.
- When habitat laws are put in place it is important to insist on clear rules, on early involvement of stakeholders in the site designation, and on rules for financial compensation.
- When port expansion is envisaged, all stakeholders should be consulted early on.
- Compensation for lost habitat or nature values at or near ports is usually possible, but in most cases expensive.

Even though the Inspector recognized that there was a need for additional container terminal capacity, the ruling was that this could be realised elsewhere in the southeastern UK. Although this could possibly lead to a temporary port capacity shortfall, the Inspector “was not convinced that a temporary lack of handling capacity should be regarded as an imperative reason of public interest that should override the protection of internationally designated sites”.

To summarize: The planning permit request was delinquent on the following counts:

- the assessment of adverse impact;
- the confusion between mitigation and compensation;
- insufficient consideration of alternatives;
- inadequate compensation package;
- insufficient arguments to apply the IROPI criterion.

It should be emphasized that these weaknesses were mainly caused by the port authority’s unfamiliarity with the impact of the Habitats Directive. In hindsight these weaknesses are quite understandable, as clearly it has taken some 10 years to realize the full impact of the EU Habitats Directive and the difficulties that arise involving compliance.

Figure 8. By creating the bird sanctuary Ilot Reposoir at the mouth of the Seine near Le Havre Port 2000, the port complied with EU directives by compensating for natural habitats lost during the construction of the port.