

# Dredging in Europe (DGE)



## Relevance and Objectives

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### **Background of DGE**

The coasts and rivers in Europe have important natural and socio-economic functions. Sediment management and dredging are core activities in order to ensure these functions. Awareness has grown among bordering countries and countries bordering the same seas of their common interest in the sound management of its sediments.

It was recognized in 1999 by the governmental bodies in Germany and The Netherlands that an exchange on issues related to the management of dredged material could be crucial for future river management. For instance, in the case of Germany and The Netherlands, both countries have large (sea) harbours such as Hamburg, Bremen/Bremerhaven, Rotterdam and Delfzijl, which receive large amounts of sediments both from the sea by tidal processes and from upstream areas by rivers. Therefore, both countries are equally subject to cross-national (European) dimensions of dredging. As a consequence, the Dutch-German Exchange (DGE) was started as an informal bilateral platform for exchanging knowledge, information and experiences in the field of dredged material management. Between 1999 and 2005 several meetings were organized, in which subjects such as legislation, dredged material disposal, use, treatment and risk assessment were discussed. The results of these discussions have been put down in thematic reports. The DGE has thus achieved an increased understanding of management of dredged material both on the policy level (national) and on the practical (project) level. At this stage the need was felt to extend the knowledge exchange to other neighbouring countries as well. The DGE became a multilateral platform.

At this moment the following countries are active in DGE: Germany, the Netherlands, the UK, France, Belgium and Denmark. The participation of other countries on the Atlantic coast of Europe (including the North Sea and the Baltic Sea) would be very welcome.

DGE is intended to be on the level of authorities that deal with the management of our rivers and ports. The participants of DGE represent organizations involved in regulating and advising on sediment and especially on dredged material management (government departments and agencies; port authorities). The exchange is informal, meaning that no official governmental statements will be prepared. The exchange will help to feed the participating organizations with better knowledge and experience of sediment and dredged material management. Furthermore, DGE aims to promote discussions related to sediment and dredged material management in the respective multilateral international and European frameworks.

## **Scope of DGE**

Dredging is done for water management and the term 'dredging' comprises not only the handling of dredged material, including its uptake, placement or disposal, use and treatment, but also legislation concerning dredging, environmental aspects of dredging activities, maintenance of waterways, safety against flooding, Working with Nature or Eco-Engineering. The area of interest lies both in inland waterways like large rivers and canals and in estuaries and coastal areas.

Several recent developments at the political, scientific and practical level require a broader perspective for the exchange of information on sediment and dredged material management. These developments are:

- to integrate sediment and dredging issues into river basin management plans and marine spatial planning
- an increased interest to exchange best practices also on issues such as maintenance dredging, use of dredged material, and working with nature
- more focus on dredging in the coastal areas.

This leads to the following broadened scope for DGE:

- Implementation of EU policies, changes in national legislation and subsequently their consequences for the management of sediments and dredged material, e.g.:
  - Implementation of the Water Framework Directive (WFD)
  - Implementation of the Marine Strategy Framework Directive (MSFD)
  - Implementation of revised EU Waste Framework Directive;
  - Implementation of the Birds and Habitat directives and Natura 2000;
  - Implementation of Soil Protection Strategies;
  - Implementation of Flood Directive;
  - Environmental Liability Directive;
  - Specific national legislation dealing with management of sediment and dredged material.
- Exchange of best practices on the following issues:
  - Maintenance plans of rivers, ports, reservoirs etc.
  - Dredging for infrastructure management
  - Dredging to improve ecological/environmental status
  - Dredged material as an essential part of the natural sediment cycle
  - Adaptation measures for climate change in relation to dredging;
  - Increased need for dredging on behalf of flood management, both inland and on the coast
  - Strategies for use and relocation of dredged material
  - Dredged material as a resource;
  - Working with Nature or Eco-engineering.
- Dredging in the coastal areas with emerging issues as:
  - Coastal protection
  - Consequences of the implementation of the MSFD, Marine spatial planning and Integrated Coastal Zone Management.

## **Objectives of DGE**

The general objectives comprise:

- exchange of existing information and best practices on sediment and dredged material management in rivers, estuaries, coastal zones, canals and ports,
- exchange of experiences on the integration of sediment and dredging issues into river basin management plans and marine spatial planning
- exchange of experiences on dealing with new developments in legislation concerning dredging and dredged material management and related issues such as maintenance of waterways, ports, safety against flooding, Working with Nature or Eco-Engineering.
- provide technical input in formal networks to influence the implementation of new legislation that may cause bottlenecks for dredging activities (such as Natura 2000);
- discuss strategies on maintenance and relocation of dredged material
- enhance co-operation on specific issues, such as joint (monitoring) projects.

## **Participants and Organization of DGE**

At this moment, different governmental organizations and port authorities from six European countries participate in the exchange of DGE (see Annex 2). The national inputs are coordinated by the following partners:

Belgium	Flemish Ministry of Mobility and Public Works (Vlaamse overheid. Department Mobiliteit en Openbare Werken)
Denmark	Ministry of the Environment/Nature Agency (Miljøministeriet/Naturstyrelsen)
France	Institute for inland and maritime waterways (Centre d`etudes techniques et fluviales, CETMEF)
Germany	Federal Institute of Hydrology (Bundesanstalt für Gewässerkunde, BfG)
The Netherlands	Ministry of Infrastructure and Environment, Rijkswaterstaat: Centre for Water Management (Waterdienst) and Centre for Infrastructure (Dienst Infrastructuur)
United Kingdom	Centre for Environment, Fisheries and Aquaculture Science (Cefas).

The intention is to meet once a year and to discuss issues that are raised by the participants. The meetings consist of presentations followed by discussion. The results of each meeting are summarized in minutes. Specific issues may result in the writing of reports or plans for future collaboration. In Annex 2 reports are listed that have been published so far. Reports and other official documents of DGE are available via the DGE-corner on the homepage of SedNet ([www.sednet.org](http://www.sednet.org)). In Annex 3 the terms of reference of the time period of 2011 – 2015 are described.

## **Relation of DGE to other networks**

Participants of DGE have contacts with a large number of international and national networks. These networks have different scopes and missions and do not necessarily have the same view on dredged material management issues as the DGE participants.

However, it is regarded as highly valuable to be informed about initiatives and opinions being developed and expressed elsewhere. Vice versa, the views and reports from DGE have already proven to be useful for other networks. The following table gives an overview of the most important related networks for DGE and the respective common themes.

SedNet	Sediments in rivers, estuaries and seas. Sediments in river basin management and in coastal management ( <a href="http://www.sednet.org">www.sednet.org</a> )
CEDA	Dredging and environmental aspects ( <a href="http://www.dredging.org">www.dredging.org</a> )
PIANC	Navigation issues, including dredging ( <a href="http://www.pianc.org">www.pianc.org</a> )
EuDA /IADC	Represents the dredging industry in EU and world-wide ( <a href="http://www.iadc.org">www.iadc.org</a> )
ESPO	Represents seaports in EU ( <a href="http://www.espo.be">www.espo.be</a> )
Dredging and Surveying	Workshops on dredging, tendering, monitoring and surveying ( <a href="http://www.rijkswaterstaat.nl/en/waterways/main_water_systems/baggerdienst/">www.rijkswaterstaat.nl/en/waterways/main_water_systems/baggerdienst/</a> )
International River commissions	Coordination in one (transboundary) river system ( <a href="http://www.iksr.org">www.iksr.org</a> ) ( <a href="http://www.ikse-mkol.org">www.ikse-mkol.org</a> )
OSPAR	Protection of marine environment of the North-East Atlantic ( <a href="http://www.ospar.org">www.ospar.org</a> )
HELCOM	Protection of marine environment of the Baltic ( <a href="http://www.helcom.fi/">www.helcom.fi/</a> )
London Convention London Protocol	Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter ( <a href="http://www.londonprotocol.imo.org">www.londonprotocol.imo.org</a> )

## **ANNEX 1 PARTICIPANTS IN DGE**

The participants in DGE are from ministries, governmental agencies and institutions and port authorities. Their grade of involvement may range from an active co-organising of the DGE-process and the regular attendance at the meetings to a mostly informal participation. The following list is not meant to be finally comprehensive. DGE is open for further participants from other countries on the Atlantic coast of Europe (including the North Sea and the Baltic Sea).

- ◆ Dutch Ministry of Infrastructure and Environment. Rijkswaterstaat. Centre for Water Management and Centre for Infrastructure
- ◆ Port of Rotterdam Authority
- ◆ German Federal Ministry for the Environment, Nature Conservation und Nuclear Safety
- ◆ German Federal Ministry of Transport, Building and Urban Development
- ◆ German Federal Institute of Hydrology (BfG)
- ◆ Hamburg Port Authority
- ◆ Free Hanseatic City of Bremen, Germany (represented by the Senator for Economic Affairs and Ports and the University of Bremen)
- ◆ Ministry of the Environment of Lower Saxony
- ◆ Ministry of Agriculture, Environment and Rural Areas of Schleswig-Holstein
- ◆ Ministry for the Environment of North-Rhine Westphalia, Germany
- ◆ Environment Agency (UK)
- ◆ Centre for Environment, Fisheries and Aquaculture Science (Cefas, UK)
- ◆ Natural England
- ◆ British Waterways
- ◆ Institute for inland and maritime waterways, France (Centre d `etudes techniques et fluviales CETMEF)
- ◆ Association des Ports Locaux de la Manche (APLM)
- ◆ VNF (Voies Navigable de France) (France)
- ◆ Flemish Ministry of Mobility and Public Works (Belgium)
- ◆ Port of Antwerp Authority
- ◆ Agency of Nature (Denmark)

## **ANNEX 2 DGE PRODUCT LIST**

DGE so far has produced thematic guidance documents in the field of dredged material management based on the experiences in The Netherlands and Germany. Each document covers a specific subject providing for a comparison between the situation in both countries and an outlook.

### **Available documents**

#### **◆ DGE Part I: Dredged Material and Legislation (April 2003)**

Part I has the character of a stepping-stone for all other documents because it contains a survey about relevant definitions and the legislative situation of dredged material management in both countries against the European background. It can be concluded that the present regulatory framework for management and handling of dredged material is extremely complex. Depending on the dredging objective and the destination of the dredged material, different (parts of) international conventions, European and national laws and regulations apply, e.g. for water, soil, waste and environment. Furthermore, current developments on the European level (Water, Waste and Soil Framework Directives) are likely to have further influence on national legislation and sediment/dredged material management. In general it is concluded that there is a need for a more appropriate and less complex regulatory framework for the handling of sediments and dredged material in both countries.

<http://www.htg-baggergut.de/Downloads/DGE%20Part%20I%20Legislation.pdf>

#### **DGE Part II: Treatment and Confined Disposal of Dredged Material (Sept. 2002)**

The document gives an overview of the state of development in Germany and The Netherlands of large-scale treatment, beneficial use and confined disposal technologies that are applicable to dredged material. The current situations and policies with respect to treatment and confined disposal in Germany and The Netherlands are described. Fact sheets and case studies in an annex to the report give more detailed information on the subjects. Gaps and discrepancies in existing guidelines or directives and legislation are identified in the document.

<http://www.htg-baggergut.de/Downloads/DGE%20Part%20II%20Treatment.pdf>

#### **◆ DGE Part III: Hazardous substances in dredged material (March 2005)**

In the past a vast number of chemical thresholds for different environmental compartments (soil, sediment, water, fauna, etc.) were determined for various regulations in Germany and The Netherlands. The specific destination of the dredged material is determining the applicable parameters and thresholds. The progressing European legislation has set up new demands (e.g. priority substances in the European Water Framework Directive, thresholds for different landfill categories in the European Landfill Directive, thresholds within national soil legislation) which significantly influence dredged material management today and in the future. Furthermore, the questions of new substances being introduced into the environment and which of them need be considered for sediment/dredged material management in the future, are of importance. At this moment, there are differences between countries and specific regulations within each country which are not expected to be harmonised on a European level. The DGE report gives an overview of the use of chemical

parameters and thresholds for the handling of dredged material and sediments in Germany and The Netherlands by comparing the situation in both countries. Recommendations are given for future sediment management issues.

<http://www.htg-baggergut.de/Downloads/DGE%20part%20III%20Hazardous%20substances%20in%20dredged%20material.pdf>

◆ **DGE Part IV: Status of ecological assessment and relocation sites in Germany and The Netherlands** (December, 2006)

The possible impact of dredged material handling on the animal communities in the aquatic environment (sediment and water) is an important aspect of ecological (risk) assessment. DGE produced a report in which current tools and procedures in Germany and The Netherlands are compared; particularly regarding the impact of dredged material management on fauna which is an *in situ* indicator of ecological changes in waters. Great emphasis is put on macrozoobenthos, as this is the group of organisms with most direct effects caused by dredging and relocation. Special attention has also been given to the relation with the implementation of the water framework directive.

<http://www.htg-baggergut.de/Downloads/DGE%20Report%204%20Ecology.pdf>

◆ **DGE Part V: Status of ecotoxicological assessment of sediment and dredged material in Germany and The Netherlands; with a short description of the situation in Belgium, France and Great Britain** (March 2007)

In the recent past a major change in investigating and assessing the environmental risk of sediments and dredged material has started. The use of ecotoxicological methods (like bioassays) play a decisive role in this change. Currently, various bioassays for marine and freshwater organisms are in use and under development. Bioassays are becoming more and more crucial in decision making frameworks for sediment remediation and the handling of dredged material. Ecotoxicologists from DGE made a comparison of the current practice in Germany, The Netherlands and other DGE countries with respect to the use and development of bioassays and ecotoxicological risk assessment as a whole. Special attention is given to the relation with the implementation of the water framework directive and with environmental risk assessment approaches.

<http://www.htg-baggergut.de/Downloads/DGE%20Report%205%20Ecotoxicology.pdf>

### **ANNEX 3 Terms of reference of DGE for 2011-2015**

In the time period of 2011 – 2015 the following terms of reference are on the agenda with corresponding actions, results/milestones:

<b>Term of reference</b>	<b>Action</b>	<b>Results/milestone(s)</b>
Provide an informal platform for experts from governmental organisations and ports from the participating countries on sediment and dredged material management, including the integration of sediment and dredging issues into river basin management plans and marine spatial planning	Informal exchange on dredging in coastal and riverine areas	Meetings, workshops, seminars, reports
Exchange of best practices of dredged material management in each country	Case studies: - Dredging (maintenance, remediation) - Climate change adaptation - Dredging and natural sediment cycle - Dredged material as a resource - Eco-engineering	List of case studies and contact persons/experts referring to them Lessons learned that may be helpful to improve own practical issues
Exchange of experiences on dealing with (implementation of) recent legislation	Discuss examples such as consequences for dredging and relocation within Natura 2000 areas or consequences from the Waste Framework Directive	Recommendations for how to deal with new legislation or how to influence its implementation in order to prevent bottlenecks for dredging activities.
Enhance knowledge exchange on coastal waters: waterway and port issues and coastal protection	Case studies of recent developments for dredging in coastal areas (incl. climate change adaptation)	Reports
Enhance knowledge exchange on inland waters: waterway and port issues, reservoirs	Case studies of recent developments for dredging in inland waterways	Reports