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Vision Document on Marine Dredged Material

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Author:	Directoraat-Generaal Water Peter van Zundert	
Text editing:	Rijksinstituut voor Kust en Zee / RIKZ C.A. Schipper en A. Sandee	
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Contents

1.1	Introduction	5
1.1	Guide for the reader	5
2	Current policy	7
z. 2.1	General	7
2.1	CTT	, 7
2.2.1	Role of bioassays	8
2.2.2	Tributyltin	8
2.2.3	Evaluation of the CTT	8
2.3	Level playing field	9
2.4	Wvo and Wvz	9
3	Relevant developments	11
J. 3 1	General government objectives	11
3.1.1	Deregulation	11
3.1.2	Decentralisation	11
3.1.3	Administrative burden	11
3.2	Policy review	11
3.2.1	Use of soil and dredged material	12
4	Marine dredged material target situation	15
4.1	Target situation	15
4.2	Link to European policy	16
4.3	Management track	16
4.4	CTT	17
4.5	Level playing field	17
5.	Preconditions for achieving target situation	19
5.1	Sustainability	19
5.2	International agenda	19
5.3	Simple regulatory instruments	20
6.	Final remarks	21

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1. Introduction

The Chemical Toxicity Test (CTT) was published in the *Staatscourant* (Government Gazette) of 5 July 2004. The CTT is a new system for assessing the relocation of dredged material in marine waters. A integrated future vision of how sediment is to be dealt with in Dutch marine coastal waters was also announced. It was stated in the Staatscourant that the CTT would be evaluated, partly with a view to this future vision.

The development of the future vision and the related evaluation of the CTT define the scope of the 'Integrated Future Vision for Marine Dredged Material' project. The present document represents this first product, a vision document, describing a target situation for dealing with dredged material in the marine environment. It explores how this project might tie in with the new policy for 'Soil and Dredged Material', partly in view of recent developments in the context of the Integrated Water Act.

1.1 Guide for the reader

The vision document is structured as follows. Section 2 contains a brief account of current relocation policy. Relevant developments in terms of policy and regulations are outlined in section 3. Section 4 presents the target situation for dealing with sediment in the marine environment, based on these developments. It also considers the role of the CTT. Section 5 takes an orientation look at the preconditions necessary for the target situation to actually be achieved. Section 6 contains a summary and links this vision document with the future vision.

2. Current policy

2.1 General

Every year some 25 million cubic metres of sediment are dredged from marine waters in the Netherlands to maintain the depth of its seaports. Some 5 to 7 percent of the dredged material is stored under controlled conditions; the rest is relocated in the marine environment.

The relocation of dredged material in the marine environment is regulated by a system of licensing under the Pollution of Surface Waters Act (WVO, pertaining to the Zeeland Delta and the Waddensea) and discretionary permits under the Marine Pollution Act (WVZ, pertaining to the North Sea). *Rijkswaterstaat* acts as the competent authority, on behalf of the State Secretary for Transport, Public Works and Water Management.

2.2 CTT

The CTT is used to assess whether the relocation of dredged material is acceptable. If it does not meet the quality criteria in the CTT, it may not be relocated in the marine environment. The CTT consists of a combination of chemical and biological assessment criteria.

Qualifying and disqualifying standards are associated with the chemical assessment criteria. For hazardous substances the criteria are directly disqualifying (one out all out). If more than two non-hazardous substances exceed the relevant standards by more than 50%, the dredged material in question is 'disqualified'. In other words, it may not be relocated in the marine environment.

The "Slufter" repository for dredging spoil at the Maasvlakte near Rotterdam



2.2.1 Role of bioassays

Since analysing and setting standards for all potential problem substances in dredged material is a time-consuming business, the CTT includes three bioassays. They are used to determine the toxicity (combined or otherwise) of the dredged material. At the time the CTT was published in the *Staatscourant*, no representative dataset of sufficient size was yet available for the bioassays. Furthermore, more detailed protocols and certification were needed to ensure uniform and reliable analysis with the bioassays. The qualifying and disqualifying standards have not, therefore, been set for the bioassays as of yet. For the time being, therefore, only a monitoring obligation and a signal function apply. If the signal value is exceeded, the causing factor must be further investigated.

2.2.2 Tributyltin

Tributyltin (TBT) is the most problematic among all the chemicals tested in assessing whether dredged material may be relocated in the marine environment. TBT is highly harmfull to the environment and is used, among other things, in antifouling paint for ships. In view of its harmfulness, a treaty has been drawn up under the auspices of the International Maritime Organization (IMO) banning the use of TBT on seagoing vessels. The treaty will come into effect once it has been ratified by the required number of member states. In anticipation of this, the EU issued a regulation in 2003 banning the use of TBT on ocean-going vessels in EU member states. These international developments will reduce the TBT burden on the marine environment.¹

2.2.3 Evaluation of the CTT

The Staatscourant text publishing the CTT announced the development of a integrated future vision on dealing with sediment in marine water systems and, partly with a view to the development of this vision, an evaluation of the CTT. The deadline for publication of the evaluation is July 2006. The evaluation must cover:

- Findings from the current implementation of the CTT, with a focus on the role of bioassays (see section 2.2.1); the question of whether the bioassays currently used are able to act as a safety net in the detection of 'new problem substances' must be considered.
- The Water Framework Directive, in order to reduce the impact of priority hazardous substances, priority substances and other relevant substances on water systems, in so that the quality objectives and ecological objectives in the Directive can be achieved.
- Developments in the context of the IMO convention banning the use of TBT in paints used on ships' hulls and the associated possibility of more stringent quality standards for TBT (see section 2.2.2).
- The development of a sustainable, integrated future vision on dealing with marine sediment. Such a future vision might have implications for assessment systems like the CTT and the role it is currently playing.

Notes

¹ In banning TBT, it is important to consider the environmental impact of replacement products, to avoid the risk of some or all of the environmental benefit achieved being undone.

2.3 Level playing field

The government adheres to the principle that a level playing field must be created. This means that the private sector must not find itself at a disadvantage in terms of its competitiveness vis-à-vis other countries as a result of changes in policy and legislation. Applied to marine relocation policy, this means that port authorities must not face significantly higher dredging costs as a result of the introduction of the CTT.

Trend reversal

Cost increases for port authorities are closely associated with the disposal of the material dredged up in operations to maintain the depth of port areas, and any changes in the method of relocation. The CTT must not, therefore, lead to a significant increase in the amount of dredged material that may not be relocated in the marine environment (no trend reversal). After all, land filling and/or treatment and reuse of dredged material is substantially more costly than relocation.

The TBT standards are key in preventing a trend reversal in the amount of dredged material for relocation in the marine environment. Other disqualifying substances play a much smaller role in determining the relocation of dredged material, as they generally occur in acceptably low concentrations.

TBT levels show considerable variation in the marine environment, and are high in the Waddensea and the waters of the Zeeland Delta. The TBT standards are therefore based on a range, the lower limit of which corresponds to the levels occurring along the North Sea coast, and the upper limit to those in the Waddenzee and Zeeland Delta.² This allows the competent authority to set TBT standards in individual cases in such a way that a trend reversal is avoided as far as possible.

2.4 Wvo and Wvz

As mentioned before *Rijkswaterstaat* issues licences to relocate dredged material in the marine environment under the Pollution of Surface Waters Act (WVO), and grants discretionary permits under the Marine Pollution Act (WVZ). The permit procedure takes six months (excluding any procedures before the Council of State).

Discretionary permits under the WVZ are currently valid for a maximum of two years; licenses under the WVO are generally valid for a longer period. Applications for licences and discretionary permits must include details on the dredged material intended for relocation, specifying:

- The amount of material to be dredged and relocated
- The quality of the dredged material
- The method of relocation
- Only for the purposes of the WVZ: arguments in favour of relocation of the dredged material and measures (planned or in place) to minimise contamination.

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² The upper limit for TBT is comparable to the German TBT standards, in accordance with the level playing field principle.

International agreements are set to reduce the environmental impact of TBT in antifouling paint



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3. Relevant developments

A number of developments set in motion several years ago as part of the policy on aquatic sediments tie in with some of the government's general objectives, as well as relating specifically to the ongoing review of the policy on soil and sediments.

3.1 General government objectives

The review of policy on soil and sediments ties in with the government's general objectives of deregulation, decentralisation, and reducing the administrative burden.

3.1.1 Deregulation

Deregulation is intended to reduce rules and regulations that unnecessarily restrict people's and companies' freedom to act. Redundant rules must be abolished, related rules 'joined up' and the need for new rules thoroughly argued. Deregulation also implies more responsibilities for citizens and companies.

3.1.2 Decentralisation

Decentralisation involves central government making local and regional authorities entirely or partially responsible for implementation, rather than regulating everything itself, right down to the local periphery.

3.1.3 Administrative burden

Deregulation avoids unnecessary rules, and thereby also any unnecessary burden on citizens and companies. This should help to make Dutch industry more competitive internationally.

3.2 Policy review

These government objectives are currently being incorporated into the review of the policy on soil and sediments. In accordance with the letter setting out the policy on soil *(Beleidsbrief Bodem)*, the role of central government will shift from regulation to facilitation. It will restrict the amount of generic regulation, and give local and regional authorities more room for tailor measures to specific locations and functions. These authorities will receive information and advice, and the government will create the conditions necessary for coordination between soil pollution prevention policy, soil management and soil remediation.

The aim of deregulation is reflected, for example, in the planned incorporation of the Soil Protection Act into the Environmental Management Act and the Integrated Water Act.

The Ministry of Housing, Spatial Planning and the Environment (VROM) is also working on the Spatial Permit Act, which will incorporate the licensing and discretionary permit systems that currently exist under the Nature Conservancy Act, the Flora and Fauna Act, the Monuments and Historic Buildings Act, the Spatial Planning Act and the Housing Act.

Besides incorporating sediment management and remediation, which are currently governed by the Soil Protection Act, the Integrated Water Act will also include the existing legislation on water (Pollution of Surface Waters Act, Marine Pollution Act, Public Works (Management of Engineering Structures) Act etc.).

The deregulation operation will replace the numerous regulations pertaining to the 'dry' and 'wet' application of soil and dredged material, such as the Building Materials (Soil and Surface Water Protection) Decree, the Pollution of Surface Waters Act (and possibly the Marine Pollution Act), the Environmental Management Act and the various exemption, toleration and discretionary permit schemes based on them, with a single regulatory framework for soil and dredged material.³

European policy

The review of policy on soil and sediments will also be used to bring Dutch policy more into line with European policy on water, soil, the environment and nature (see also section 4.2).

3.2.1 Use of soil and dredged material

The use of soil and dredged material, and of other building materials, is currently regulated primarily by the Building Materials (Soil and Surface Water Protection) Decree (BSB). The BSB is based partly on the precautionary principle applying under the Soil Protection Act, and sets standards for the use of building materials designed to prevent the contamination of soil, groundwater and surface water. This reflects the prevention track of soil and water policy, which seeks to tackle actual and potential sources of contamination that stand in the way of sustainable environmental management.

Review of Building Materials Decree

The BSB is currently undergoing a comprehensive review. A separate policy and regulatory framework is being developed for the use of soil and dredged material. The scope of the revised BSB will therefore be restricted to other building materials.⁴

These building materials may be used in so far as they meet generic product standards. This ties in with products policy, reflecting the prevention track of that policy (prevention of environmental pollution). The prevention track is designed to help ensure that soil and dredged material from earthmoving and dredging operations are of such quality that they are suitable for useful application or relocation into the environment.

³ The use of dredged material includes relocation and 'setting aside'.

⁴ Other building materials are distinct from soil and dredged material in the sense that they are the result of production processes. Their quality can therefore be influenced. This is not the case with soil and dredged material, which are extracted from natural environmental compartments. Soil and dredged material may therefore be reincorporated into the soil, being a natural part of it, unlike other building materials.

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Policy framework for soil and dredged material

The new policy and regulatory framework for soil and dredged material will no longer tie in with the prevention track, but will in fact form part of soil management. After all, the use of soil and dredged material does not involve an additional environmental impact, as can be the case with other building materials. It merely involves movement of material from an existing environmental compartment: soil and sediments. To the extent that these environmental compartments are contaminated, it is therefore a matter of moving contamination that is already present in the environment. *In other words:* in terms of policy, the use of soil and dredged material forms part of the soil management track, rather than the soil pollution prevention track (in contrast to the use of other building materials). In soil management, instruments such as generic and function-dependent standards are less relevant. There is in fact a need for measures tailored to specific locations and functions, in view, among other things, of proposed spatial developments and the associated quality requirements.

Generic and regional framework

The new policy framework for soil and dredged material consists of a generic framework and a regional framework. The generic framework defines, among other things, an upper limit for the potential incorporation of soil and dredged material into the soil, safeguards the 'stand-still principle' and sets uniform national rules for the use of soil and dredged material in 'engineering structures'.⁵

The generic framework applies until the soil or water management agency concerned has set out a regional framework in its soil or water management plan.⁶ In a regional framework, the potential applications set out in the generic framework are tailored to the local or regional situation. Tailor-made regional measures help ensure that the right balance is struck between good soil protection and sufficient flexibility in the potential uses of soil and dredged material.

⁵ The use of soil and dredged material in engineering structures is regulated in the generic framework. The regional framework may not deviate from the generic framework in this respect.

⁶ The water management plan could tie in with the (regional) river basin management plans being development under the Water Framework Directive.

Vision Document on Marine Dredged Material

Notes

Vision Document on Marine Dredged Material

4. Marine dredged material target situation

The previous section described developments relevant to the integrated future vision on dredged material in the marine environment. On that basis, and with a view to the future vision, one can derive a target situation substantiating these developments as fully as possible. In this sense it is also important to note that the Fourth Policy Document on Water Management includes the objective of making dredged material clean enough to be relocated or used in the environment in its entirety.

4.1 Target situation

The target situation is for it to be possible to use dredged material to maintain the proper depth in port areas in a simple and sustainable way or to relocate it in the marine environment. The dredging and relocation of this material will form an integrated part of water management. Conditions for relocation of the dredged material will be laid down in regional water management plans and will be in line with the water management agency's ambitions concerning its water management activities.⁷



Dredging vessel maintaining the depth of dutch sea ports

⁷ One possibility under consideration is for three water management plans to be drawn up, for the Zeeland Delta, the North Sea Coast and the Waddenzee. These plans would be drawn up by the water management agency (Rijkswaterstaat in this case), in consultation with port authorities and other stakeholders.

Vision Document on Marine Dredged Material

The water management plans will also regulate coordination with other application functions, and with the quality and ecological objectives for the region in question.^{\circ}

4.2 Link to European policy

The regional water plans regulating dredging and the relocation of dredged material in the marine environment will be in line with European policy in the sense that:

- they will strike the right balance between ecology and economics, in accordance with the European Marine Strategy;
- they will put into practice nature protection as advocated in the Birds and Habitats Directives;
- they will be based on a system approach, whereby water, sediments and groundwater are seen as an integrated part of the water system (Water Framework Directive);
- the quality assessment and monitoring systems used will be designed partly to detect remaining problem substances in the marine environment. This will provide input (agenda items) for the prevention track of the Water Framework Directive (reduction of the impact on water systems, in order to meet the objectives of the Directive).⁹

4.3 Management track

Dredged material will no longer automatically be regarded as a waste, a contaminant or a harmful substance, but as a natural part of the water system. The regulation of the relocation of dredged material will therefore no longer be part of the prevention track; it will shift to the water management track. The current sectoral approach, using discretionary permits and licensing procedures under the Marine Pollution Act and Pollution of Surface Waters Act as regulatory instruments will thus become a thing of the past. It will be replaced by integration with the policy and regulatory framework for the use of soil and dredged material, which is currently under development (see section 3.2.1).¹⁰ This will reduce the large body of regulations applying to soil and dredged material to a single regulatory framework, putting into practice the government's objective of deregulation.

⁸ Coordination with other application functions, quality objectives and ecological objectives prevents dredged material and the way it is dealt with in the marine environment undermining the general objective of achieving sustainable water systems.

9 This list is not comprehensive; the water management plans also take account of international agreements such as the OSPAR and IMO conventions.

¹⁰ The new regulatory framework for soil and dredged material will be an order in council based on the Environmental Management Act/Spatial Permit Act ('dry' applications) and the Integrated Water Act ('wet' applications).

Vision Document on Marine Dredged Material

Notes

4.4 CTT

The CTT will no longer be used to test whether dredged material can be relocated in the marine environment. The regional water management plan will instead provide for a monitoring system that measures the quality of the water system in a broader sense, including the ecological functioning of the system. The water management agency and port authorities will reach agreement as to the latter's input into the monitoring system. This input will involve monitoring the impact of dredging activities and the relocation of dredged material in the marine environment on the functions, quality objectives and ecological objectives assigned to the water system (or regional water system) in question. The port authorities' input to the monitoring system will replace their current research efforts for the purposes of assessing the eligibility of dredged material for relocation in the marine environment, in accordance with the Pollution of Surface Waters Act and the Marine Pollution Act.

The results of the CTT evaluation will be used in the assessment of the role of the CTT in the monitoring system. The CTT's current role is based on an emissions-based strategy in which the relocation of dredged material is brought into line with discharges and other polluting activities in or near water systems (the primary sources of pollution). This role is perfectly suited to the prevention track but is not necessarily suitable for the management track.

As part of the management track, the CTT must at any rate provide insight into the impact of dredging and the relocation of dredged material on the marine environment. It is essential that the revised CTT will be able to detect any problem substances in the marine environment. This information can be used to devise packages of measures under the Water Framework Directive to further reduce the impact on water systems (see section 4.2).

4.5 Level playing field

The target situation for dredged material in the marine environment will not place port authorities at a disadvantage in relation to ports in other countries. The administrative burden will be reduced by the simplification of the regulatory framework. The same applies to the research effort for the assessment of whether dredged material can be relocated or used in the marine environment. In the target situation, this research effort would form part of a broader monitoring system, thus bringing cost savings. It is also expected that, in the target situation, the amount of dredged material from maintenance dredging in ports requiring storage in disposal facilities would be reduced. After all, maintenance dredging constitutes part of the regular management of ports. The flows of dredged material which, in the target situation, could not be relocated would as a rule be dredged material released from remediation work on sediments, in efforts to tackle especially the risk of contamination that originate from historical contaminated sediments.

Vision Document on Marine Dredged Material

5. Preconditions for achieving target situation

For the target situation to actually be achieved, a number of preconditions must be met. This section briefly discusses the most important ones. They will be explored in more depth in the Integrated Future Vision itself.

5.1 Sustainability

The relocation of dredged material must not pose any extra risks to the application functions, quality objectives and ecological objectives for the region. The target situation must therefore provide a sustainable way of relocation of dredged material. The presence of remaining local sources of pollution could hamper this effort, in so far as they have a significant negative impact on the quality of the sediment. As a result, regulation under the management track may not be possible, which would mean the prevention track continues to apply (and the remediation track in the event of severe contamination).¹¹

5.2 International agenda

The sediment quality in sea ports and the areas around them has improved considerably over the past 20 years. Nevertheless, some of the quality objectives have not been achieved. A more radical strategy is therefore needed to tackle the contamination at its source (particularly diffuse sources). This generally requires a combined national and international strategy.¹² The Water Framework Directive provides a framework for dealing with river-borne pollution, while the IMO Convention provides a framework for tackling the source of TBT. To ensure that these issues make the international agenda, remaining problem substances must be detected at an early stage. The timely detection of problem substances requires an efficient monitoring system. Preferably, a link should also be made between problem substances and the sources responsible.

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¹¹ The management track provides for a simple procedure involving notification, rather than a system of licences and discretionary permits.

¹² Problem substances can be dealt with locally, regionally, nationally and/or internationally, depending on their origin and the scale of the problem.

Vision Document on Marine Dredged Material

5.3 Simple regulatory instruments

The added value of the target situation depends to a great extent on whether a simpler regulatory framework is put in place, obviating the need for the current long and complex licensing and discretionary permit procedures. The regulatory framework currently being developed for the use of soil and dredged material is based, liked the Building Materials Decree, on a notification system. If the 'soil and dredged material' regulatory framework were to tie in with the 'Marine Dredged Material' project, the same notification system could be used. However, the 'Marine Dredged Material' project would have to have sufficient overlap with the new policy on 'Soil and Dredged Material'.

6. Final remarks

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The target situation for dredged material in the marine environment strikes a sustainable balance between ecology and economics, contributes to the objective of deregulation and reduces the administrative burden.

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In procedural terms, the target situation could be achieved when the new regulatory framework for soil and dredged material comes into effect. This is expected to happen in 2007. The integrated future vision must make a final judgment as to whether the other preconditions can be met (see section 5). If it identifies conflict between ecological and economic interests, further political choices may have to be made.

Vision Document on Marine Dredged Material

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Vision Document on Marine Dredged Material

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