16. THE NETHERLANDS

16.1 Water Resources Management Policies and Actions

In 2001, the Ministry of Transport, Public Works and Water Management has issued "A Different Approach to Water and Water Management Policy in the 21st Century", which outlines the Cabinet's position on water management policy in the 21st century. The following tenets guided the Cabinet in drafting its approach to ensure safety and reduce water-related problems:

- Citizens do not sufficiently recognise and acknowledge the problems associated with water. The Cabinet must better communicate the nature and scope of these risks and, in addition to its own efforts, offer individuals the opportunity to contribute to risk reduction.
- The need for a new approach to ensure safety and reduce water-related problems that is founded on three underlying principles: (i) anticipating instead of reacting; (ii) not passing on water management problems, by following the three-step strategy (retaining, storing and draining), and not passing on administrative responsibilities; (iii) allocating more space to water in addition to implementing technological measures.
- In addition to implementing technological measures, allocating more space for the (occasional) storage of water is required. Wherever possible, this space must also serve other objectives that are compatible with water storage.
- A 'water test' must prevent the gradual decrease in existing space allocated for water through, for instance, the implementation of projects in the areas of land use, infrastructure or residential construction. More details can be found in **Exhibit NL-1**.
- The new water management approach places new demands on the knowledge infrastructure.
- The Cabinet, provincial authorities, water boards and municipal authorities are all responsible for ensuring safety and limiting water-related problems. Administrative agreements about the division of roles and co-operation must ensure rapid and effective implementation of measures.
- Developments in climatic change and land subsidence and the new approach require repeated additional investments in both the main and regional water management systems.

In the same year, the second Green Space Structure Plan had released, which offers an indication of how to combine the implementation of measures in rural areas for increased safety and flood prevention with measures for such objectives as improving water quality, combating dropping water-tables, reconstructing rural areas and improving the ecological infrastructure.[258]

[258] Extracted from "Water management policy in the 21st century", http://www.verkeerenwaterstaat.nl/Images/A%20different%20approach%20to%20water_tcm195-100726.pdf, page17-19

Implementation of EU Water Framework Directive

The EU Water Framework Directive has been in effect since 2000. This directive is based on (international) catchment areas. For the Netherlands, these are the catchment areas of the Scheldt, Meuse, Rhine and Ems rivers. As a result, the care and management of water has become a cross-border issue. The Framework Directive states that the countries involved in each catchment area must draw up joint action plans dealing with all aspects of water. The people living in these countries must become more involved with water management, and European legislation concerning water must be co-ordinated better.

The Directive requires the European member states to get the quality of their surface water in order, which shall be done per catchment area. For a delta country such as the Netherlands ("the drain of Europe") the implementation of the Framework Directive is a difficult task. In principle, the Netherlands must have achieved a 'good chemical state and good ecological potential or a good ecological state' by 2015. The standards required to achieve this will be largely set in the period 2004-2005. The possibilities for achieving this target before 2015 are being analysed until 2015, looking at the problems that may occur in the process. The parties then have until 2009 to draw up action programmes for each catchment area.

In April 2004, the government stated in the memorandum "Pragmatic Implementation of the EU Water Framework Directive in the Netherlands" how it aims to implement the Framework Directive in the coming years. This memorandum sets out the starting points and the strategy to be pursued up to 2009. The implementation will be brought in line as much possible with existing Dutch policy.[259]

Other actions or programmes related to water resources management

(i) "The Netherlands Lives with Water"
To raise the public awareness of the Dutch society of the impact of climate change and the efforts water managers are undertaking to deal with the consequences and ensure that the Netherlands remains safe and liveable in the future. The "The Netherlands Lives with Water" public awareness campaign is promoted by the Ministry of Transport, Public Works and Water Management, the Association of Provincial Authorities (IPO), the Association of Water Boards (UvW) and the Association of Netherlands Municipalities (VNG).[260]

(ii) "Room of Water"
Giving the water room means acreage is made available in the flood plains and towns to store water. Streams are allowed to meander as they once did, and farmers and water

[259] Extracted from "Water in the Netherlands", http://www.tudelft.nl/live/binaries/77848019-ef55-4b8b-ac2a-6c9e46371c84/doc/Water_in_the_Netherlands_2004-2005.pdf, page 36
[260] Extracted from "Water in the Netherlands", http://www.tudelft.nl/live/binaries/77848019-ef55-4b8b-ac2a-6c9e46371c84/doc/Water_in_the_Netherlands_2004-2005.pdf, page 6

boards use detention ponds to store excess rainwater longer. By lowering flood plains, moving dikes inland or digging extra channels alongside the rivers, rivers are given more room and the threat of flooding is reduced.

On 2 July 2003, the national government, provincial authorities, municipal councils and water boards signed the National Administrative Agreement on Water (NBW). This agreement sets out how and by what means, and according to which timetable, those involved would organise Dutch water management between now and 2015. The agreement also elaborates on the relation with the Water Policy for the 21st Century and the EU Water Framework Directive.[261]

Source: "A Different Approach to Water, Water Management Policy in the 21st Century"[262]

[261] Extracted from "Water in the Netherlands", http://www.tudelft.nl/live/binaries/77848019-ef55-4b8b-ac2a-6c9e46371c84/doc/Water_in_the_Netherlands_2004-2005.pdf, page 28

[262] Extracted from "A Different Approach to Water, Water Management Policy in the 21st Century", http://www.verkeerenwaterstaat.nl/Images/A%20different%20approach%20to%20water_tcm195-100726.pdf, page 32

Exhibit NL-1 Water Test[263]

Spatial planning decisions are based on an integrated assessment of all the aspects at hand. In the past, the Cabinet paid less attention to the ramifications on safety and water-related problems. As a result, a great deal of space was gradually reclaimed from the water management system. Various stipulations of the Spatial Planning Act offer the possibility of testing the ramifications for the water management system.

New spatial planning decisions may not exacerbate the challenges to safety and water-related problems unnoticed. The consequences for safety and water-related problems will have to be explicitly addressed in a separate section in the explanatory policy document and form part of the integrated assessment.

'Water test' applies to all manner of spatial planning decisions, including amendments to zoning plans, regional plans, new plans for infrastructure, residential construction, business parks and redevelopment plans in urban and rural areas.

Note:
In some other documents, 'water test' is translated as 'Water Impact Assessment' or 'Water Assessment', hereinafter named "WA" in short).

In order to ensure that the contents of the Planning memorandum are sufficiently incorporated in spatial considerations, WA has become mandatory since 1 November 2003. This obligation means that a 'water paragraph' must be included in spatial plans, describing how the consequences of these plans affect water management. Apart from safety and flooding, the water paragraphs must address the effects on water quality and desiccation. The way in which areas have been urbanised or otherwise developed (e.g. glasshouse areas) is one of the causes of flooding. Spatial plans and decisions may lead to flooding, a deterioration of water quality, the desiccation of nature areas, etc. The WA is designated to prevent these negative effects.[264]

WA is not meant to be a new procedure, but a process of interaction that is fully integrated into existing spatial planning procedures. When either Environmental Impact Assessment or SEA has to take place as well, both assessments partly take place parallel and provide each other with information. Unlike a test on water aspects of a completed spatial plan, WA is a process of interaction during spatial design.[265]

[263] Extracted from http://www.verkeerenwaterstaat.nl/Images/A%20different%20approach%20to%20water_tcm195-100726.pdf, page 43, 45

[264] Extracted from "Water in the Netherlands", http://www.tudelft.nl/live/binaries/77848019-ef55-4b8b-ac2a-6c9e46371c84/doc/Water_in_the_Netherlands_2004-2005.pdf, page 30

[265] Extracted from "Water Assessment in the Netherlands", http://www.helpdeskwater.nl/aspx/download.aspx?PagIdt=2820&File=waterassessment.pdf, page 1

16.2 Environmental Evaluation/SEA in the Netherlands

In the Netherlands, there are two separate systems for environmental assessment on policy, plan and programme, including:

(i) Environmental test (E-test) – required for drafting laws and regulations in order to inform policy-making; and
(ii) Strategic Environmental Impact Assessment (SEIA) – applied to specified plans, programmes, and projects.

Both of them are distinct in concept and approach, and are implemented separately and independently of each other.[266]

Environmental test (E-test)

The E-test is an administrative system, also regarded as an 'Environmental Protection Scrutiny (EPS) process' – with definition to any brief explanatory note on environmental assessment, for drafting laws and regulations in order to inform policy-making. It was introduced in 1995 (reformed in 2002) by the Cabinet (Official Gazette 1995, No.15). It is an initiative by the Ministry of Housing, Spatial Planning and the Environment (VROM) and the Ministries of Economic Affairs and the Ministry of Justice.[267] The main aim of the E-test is to identify the potential environmental effects of draft laws and regulations in order to inform policy-making. It has been applied to the introduction of new bills, general administrative orders and ministerial decrees and orders and amendments. In addition, other policy intentions can be tested as well, such as plans and notes, for their environmental effects. However, the Minister of VROM preferred in the first period to focus on draft regulations in applying the environmental test.[268]

Overall process for E-test

Between 1996 and 2001, the minimum procedural requirements for implementation of the E-test corresponded to three main stages: (i) screening and scoping; (ii) impact analysis and documentation; and (iii) review and submission. A new E-test procedure was approved by the Council of Ministers in October 2002 and became obligatory on 1 March 2003. It has been consolidated into two main phases:

(i) Quick scan: Used by the responsible ministry to substantiate the need for draft legislation, to identify potential significant effects and propose the tests to be carried out;
(ii) Appraisal and documentation: E-test (and other appraisals) carried out in

[266] Strategic Environmental Assessment: A sourcebook and reference guide to international experience, Barry Dalal-Clayton and Barry Sadler, 2004, http://www.iied.org/Gov/spa/documents/SEAbook/Chapter3_Oct04.pdf, pages 73-76
[267] Netherlands Ministry of Housing, Spatial Planning and the Environment, http://www2.vrom.nl/pagina.html?id=7378
[268] Strategic Environmental Assessment at the Policy Level: Recent Progress, Current Status and Future Prospects, Barry Sadler, http://www.iaia.org/Non_Members/Conference/SEA%20Prague/SEA%20at%20the%20Policy%20Level.pdf, page 70

accordance with a written agreement on the information to be included in the Explanatory Memorandum, which is reviewed by the Proposed Legislation Desk and Ministry of Justice and directed for comment to the Ministry of Environment.

Strategic Environmental Impact Assessment (SEIA)

The SEIA is a statutory system, also regarded as SEA process, applied to specified plans, programmes, and projects. Under the EIA Decree (1987), specified plans and programmes are subject to the procedure laid down in the Environmental Management Act (2006). Such plans and programmes include national plans for waste management, electricity generation and water supply, and regional land use plans for the location of major new housing, industrial or recreational areas. SEIA for specified plans and programs follows a mandatory process, including examination of alternatives, public involvement in the scoping and review phases and review of the quality of the information by the independent EIA Commission.[269]

Overall process for SEIA (refer **Exhibit NL-2**)

(i) Inception memorandum (also called notification of intent or starting note) – The proponent presents the inception memorandum with a brief description of the proposed activity. The competent authority makes the memorandum public. The procedure begins.

(ii) Public participation comment and advising – This participation and advising aims at the guidelines for the contents of the assessment report, named "Environmental Impact Statement (EIS)".

(iii) Guidelines – Define the environmental effects and alternatives to be assessed in the EIS.

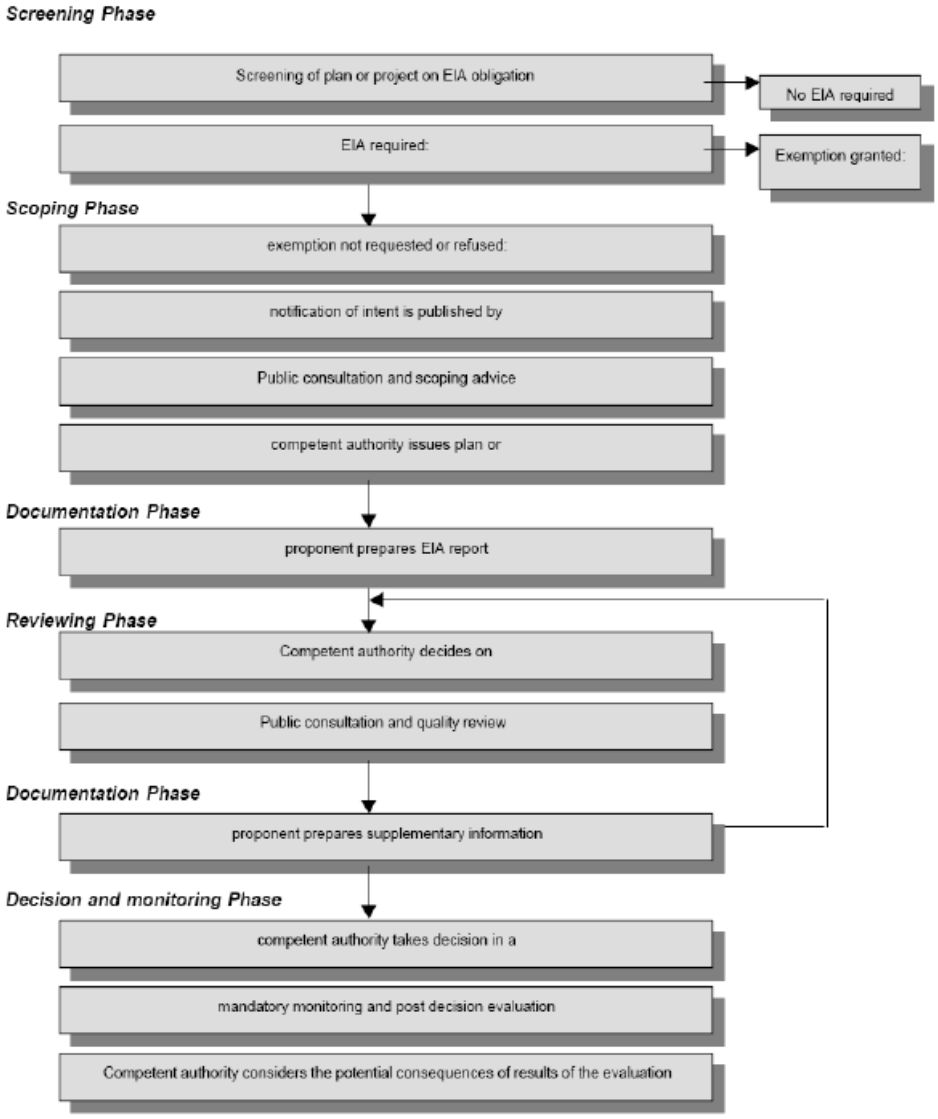
(iv) Production of EIS – The proponent is responsible for drawing up the EIS.

(v) Public participation, advising and hearing on EIS – After the acceptance of the EIS by the competent authority, the EIS shall be commented by the public and the advisers. A hearing is included.

(vi) Review, decision and evaluation – The EIA Commission reviews the EIS both for completeness and scientific quality, taking into account the comments from the advisers and public participation. In cooperation of the proponent, the competent authority evaluates the environmental impacts on the basis of the evaluation programme. If necessary, the competent authority may order extra mitigating measures to reduce the environmental effects.

[269] Strategic Environmental Assessment: A sourcebook and reference guide to international experience, Barry Dalal-Clayton and Barry Sadler, 2004, http://www.iied.org/Gov/spa/documents/SEAbook/Chapter3_Oct04.pdf, pages 73-76

Exhibit NL-2 Main Steps of SEIA in the Netherlands[270]



Notes:

- SEIA of national and regional plans and programmes follows the same procedure as EIA for projects. In the above flow chart, the term EIA is used for both strategic and project EIA.
- Legal requirements include the description of alternatives, including the one that would be the best from an environmental point of view. Social impacts directly stemming from environmental effects are typically included; other social impacts and economic impacts are not legally required as part of an EIA.[271]

[270] Referenced to the "Environmental Impact Assessment in the Netherlands – Views from the Commission for EIA in 2002", http://www.eia.nl/mer/commissie/img/grboek2002.pdf

[271] Referenced to the "Environmental Impact Assessment in the Netherlands – Views from the Commission for EIA in 2002", http://www.eia.nl/mer/commissie/img/grboek2002.pdf

16.3 Environmental Evaluation/SEA on Water Resources Management in the Netherlands

Plans or programmes related to water resources management in the Netherlands follow the requirements of the EIA Decree, as such SEIA should be carried out to evaluate environmental impacts.

For policy level, E-test should be carried out as an administrative EPS process with a brief explanatory note on environmental assessment.

Details of the requirements should refer to section 16.2.

A summary table for both the water resources management policies and actions and SEA status in the Netherlands is presented in **Exhibit NL-3**:

Exhibit NL-3 Summary of Water Resources Management (WRM) Policies and Actions and SEA status in the Netherlands	
(a) WRM Policies and Actions	
WRM Policies and Actions	Policies: ● A Different Approach to Water and Water Management Policy in the 21st Century ● Implementation of EU Water Framework Directive Actions: ● Water test ● Room of Water ● The Netherlands Lives with Water
Guidance/Legislations for WRM	N/A
(b) Environmental Evaluations / SEA Status in WRM Policies and Actions	
Type of Assessment	● E-test ● Strategic Environmental Impact Assessment (SEIA)
Requirement Mechanisms	● For E-test, it is an administrative requirement, while for SEIA, it is a statutory required.
Legislation for Environmental Evaluation / SEA	● For E-test, it is required under the Official Gazette 1995, No.15 ● For SEIA, it is regulated by the Environmental Management Act
Applications	● For E-test, it is required for policies ● For SEIA, it is required for plans and programmes

16.4 Analysis and Conclusions

WRM Policies

There are two concerns for water resources in the Netherlands. One is the flooding risk due to climate change. Thus, Water and safety is seen as more of a cohesive whole in the future. The long-term objective is to develop a new flood protection policy, a joint approach involving all parties in the Netherlands that is designed to prevent floods and minimise potential damage. To prevent floods, river water is planned to be routed into auxiliary channels and wetlands, which is less expensive and enhances flood protection. In 2000, the Dutch Cabinet opted for a new policy approach to flooding: give the water room.

The other concern is on water quality. The Ministry of Transport, Public Works and Water Management (V&W) is working together with the water boards, provinces and municipalities to systematically improve the water quality of rivers, lakes, canals, ditches and waterways. As rivers don't stop at the border, countries lying upstream will also have to make a substantial contribution to improve water quality in a downstream country like the Netherlands. Agreements at the European level are necessary for achieving this. Such agreements were laid down in the EU Water Framework Directive. This directive aims to ensure that the groundwater and surface water in all EU Member States is cleaned up by 2015.

Compared to the Netherlands, Hong Kong is not within the EU Directive regime and the scope of water resources need to be managed is restrained to the two main sources of water – rainfall from natural catchment and supply from Guangdong. It is Water Supplies Department's (WSD) scope of work to cover the whole process from the collection of natural yield from rainfall, the reception of raw water from Guangdong to the provision of a supply with a quality of accepted international standards to the users' taps. WSD also supplies sea water for flushing purposes to over 80% of the population. For protection against flooding, sewage collection, treatment and disposal, it is under Drainage Services Department's (DSD) jurisdiction.

For the sustainable development of Hong Kong, WSD has initiated a ***Total Water Management programme*** comprising key elements of new water resources, water reclamation, water conservation and water resources protection and management was initiated for better utilization of the different water resources.

Similar to the Netherlands, Hong Kong, while is part of Guangdong province, has a neighbour city, Shenzhen, to the north. Effective transboundary cooperation is considered to be essential for the protection of inland water bodies.

EE/SEA

As an EU Member State, the Netherlands is obliged to adopt the requirements of the EU Directive 2001/42/EC by bringing into force the laws, regulations and administrative provisions necessary to comply with the Directive.

The SEIA is a statutory system, also regarded as SEA process in the Netherlands,

applied to specified plans and programmes under the Environmental Management Act (2006). Such plans and programmes include national plans for waste management, electricity generation and water supply, and regional land use plans for the location of major new housing, industrial or recreational areas.

The Netherlands has built an administrative Environmental Protection Scrutiny (EPS) process for policy level. It was introduced in 1995 (reformed in 2002) by the Cabinet (Official Gazette 1995, No.15). The main aim of the E-test is to identify the potential environmental effects of draft laws and regulations in order to inform policy-making. It has been applied to the introduction of new bills, general administrative orders and ministerial decrees and orders and amendments.

Hong Kong is not an EU Member. Hong Kong's SEA/EE is under Environmental Protection Department's (EPD) jurisdiction. Similar to the EU Member counterparts, there are both statutory and administrative systems for PPP projects in Hong Kong. While the statutory requirements govern primarily large scale development projects (i.e. over 20 ha of area or population over 100,000), the administrative counterpart has been applied to land use planning, transportation and sectoral PPP.

In most EU Member States' practices, a statutory system is put in operation for WRM related plans and programmes. Hong Kong may adopt a similar approach by expanding the scope of the current statutory system to cover other sectors such as WRM.

Also, the SEA Directive sets out the requirements for undertaking environmental assessments for plans and programmes in various sectors, namely, agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use, etc. A similar scope or categorisation of sectors is recommended for setting up within Hong Kong's next generation SEA management framework.

16.5 Examples of Water Resources Management Policies / Actions or their Environmental Evaluation/SEA

Example NL-1	SEA for the National Policy Plan for Industrial and Drinking Water Supply (BDIV)[272]
Type of Study	Strategic Environmental Assessment
Description of Study	The Plan includes decision on guiding principle for drinking water production; quality assurance and environmental management systems for the production and distribution of water. The most significant effects of groundwater extraction which can lead to secondary effects. Therefore, the two main goals of the SEA are to determine the ecological impacts of alternative water production policies and to compare alternative methods of water production. Five alternatives for future national water production policy were developed, with respect to the alternative production methods (use of groundwater, use of surface water, use of artificial infiltration).
Summary of Alternatives	For the alternative production policies, two broad categories were distinguished: ● on the basis of the existing ratio groundwater / surface water use: (i) increasing total drinking water production; (ii) reducing total drinking water production; (iii) reducing industrial water production ● on the basis of a shift in the ratio groundwater / surface water use: (i) increasing the existing use of ground water (i.e. both shallow and deep ground water and infiltrated river water), decreasing use of surface water; (ii) reducing current use of ground water, increasing use of surface water For the alternative production methods ● use of ground water: (i) use of shallow ground water (ii) use of deeper ground water (iii) use of infiltrated river water ● use of surface water: (i) direct abstraction via a natural reservoir (ii) direct abstraction via an artificial reservoir ● use of artificial infiltration (i.e. injection of surface water into the underground, after which it is pumped up as ground water) (i) surface infiltration (ii) deep infiltration
Scope of Assessment/ Study	The evaluation parameters considered in the study include: ● Change in natural value ● Landscape ● Public health ● Use of space ● Proven technology ● Flexibility ● Vulnerability ● Costs ● Administrative & juridical aspects
Environmental Measures	No mitigation measures are mentioned in this study.
Outcome of Study	For the alternative production policies: ● There is a direct relation between drinking water production and ecological impacts ● Ending all ground water abstraction, drinking water production and industrial use of water would lead to a 12%, 10% and 2% increase in the natural value of moist and wet ecosystems comparing to Year 1988

[272] Extracted from "Effective SEA System and Case Studies", http://www.eia.nl/ncea/pdfs/sea/casestudies/japan_effective_sea_and_cases_6xnl_6xee_4xuk_03.pdf, page 78-83

Example NL-1	**SEA for the National Policy Plan for Industrial and Drinking Water Supply (BDIV)**[272]
	For the alternative production techniques, the scoring results among the sub-options for the production techniques are as follows: ● Best score (which means the best option among the alternatives): use of deep ground water, infiltration river water and deep infiltration; ● Medium score: use of surface infiltration and natural reservoir surface water; ● Worst score: use of direct extraction from surface water, shallow ground water and artificial reservoir surface water.

Example NL-2	**SEA on the Routing the River Meuse (Zandmaas/ Maasroute) (2005)**[273]
Type of Study	Strategic Environmental Assessment
Description of Study	Strategic measures proposed in the two rivers named Zandmaas and Maasroute, are studied that lead to (i) a decrease in high discharge levels during peak flows to prevent flooding; (ii) more safety, fluency and capacity for shipping; (iii) limited nature (original natural values) development.
Summary of Alternatives	Four alternatives were developed, based on the choice between river deepening versus river widening and restricted versus restricted nature development: ● river deepening and restricted nature development ● river widening and restricted nature development ● river deepening and less restricted nature development ● river widening and less restricted nature development (most environmental friendly alternative) for which, the "restricted nature development" is defined as: ● the realisation of nature friendly shores; ● to realise a decrease in peak flows, measures in the winter course are planned. These kind of measures can bring back the original dynamic of river floods and creates opportunities for wet, river bound ecotype restoration
Scope of Assessment/ Study	The evaluation parameters considered in the study include: ● areas with nature-function ● nature vulnerable to desiccation ● river ecotypes ● river species living areas ● species in the nature policy
Environmental Measures	Mitigation measures for this study include: ● Desiccation will be mitigated by so-called "peilopzet" that can be translated as increasing the groundwater level by adapted weir management. ● Deepening and widening has negative effects on the natural river dynamics and therefore on the river ecosystem. Parallel streams, situated near the weirs, can restore a part of the dynamic character of the river. ● The shores will not be protected anymore against the turbulence and waves of the river water caused by shipping.
Outcome of Study	The preferred alternative has not been discussed in the report.

[273] Extracted from "Netherland, the: SEA on the routing the River Meuse (Zandmaas/Maasroute)", http://www.commissiemer.nl/ncea/pdfs/sea/casestudies/3_nl_sea_river_meuse.pdf