

# A new sediment assessment framework in the Netherlands: the sediment as a part of the aquatic ecosystem.

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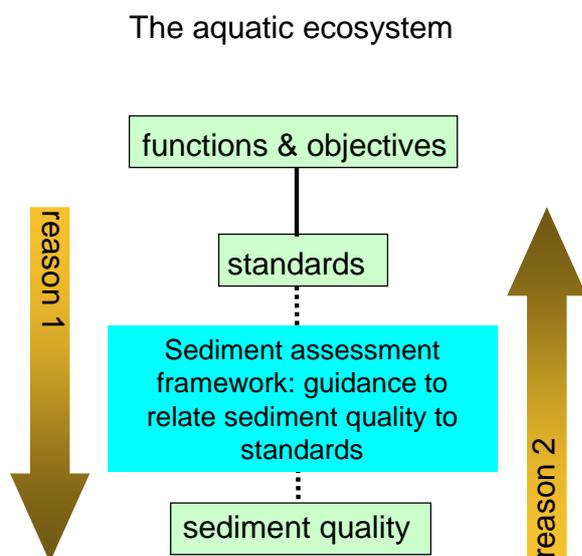
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**Introduction:** Until the end of 2009 the remediation of sediments in the Netherlands is regulated in the Soil Protection Act. Specific objectives and finance were available to improve the sediment quality. From 2010 sediment quality will be regulated within the Dutch Water Act. Contaminated sediment is considered as one of the limiting factors to obtain a good water quality (including ecology and food quality) or even to obtain regional objectives e.g. landscape values. Remediation only takes place if these objectives are limited by contaminated sediment.

A new sediment assessment framework (SAF) is developed to estimate the contribution of contaminated sediments to aquatic (eco)systems. Another new aspect is that the assessment of nutrients in sediments is included in the framework, whereas the current framework only focuses on organic and inorganic micro pollutants.

**Objective:** The SAF aims to determine whether the sediment quality hinders objectives of the water bodies. This does not only apply to water quality and ecology, but also to recreation, fishery, agriculture, groundwater and drinking water.



**Fig. 1:** Scheme of the sediment assessment framework.

**Approach:** The approach of the framework is shown in figure 1. The starting point is quality of the water system. Depending on the functions, objectives and target values are formulated for the specific water body. The SAF evaluates to what extent the sediment influences the standards.

There are two possible reason to start the SAF:

1. Water quality standards are exceeded and the sediment might be a significant factor
2. The sediment is contaminated and may deteriorate the water quality.

If the sediment might contribute to the water quality problem, the sediment assessment framework provides a simple assessment method, with the opportunity to use specialized analytical techniques. The simple method is suitable for relatively small contaminated sites, and can be a good basis for larger or more complex sites.

The sediment assessment framework distinguishes 5 different types of water quality standards that can be exceeded:

- total concentrations in water,
- dissolved concentrations in water,
- the EQR phytoplankton,
- EQR macro fauna,
- the MPC for humans as resulted from water recreation and fish intake.

Furthermore, the erosion of sediments to downstream water bodies gets attention in de sediment assessment framework.

The relationship between each standard and the sediment quality is worked out in separate modules. Aspects presented on the poster are: the information required, method calculations and results.