



Nature development in the Western Scheldt, the Netherlands

The Province of Zeeland is looking for ways to restore estuarine nature in the Western Scheldt. Svašek Hydraulics has investigated several locations in the estuary using the FINEL2d morphological model. Since these locations are shallow and located near the dike both sand and silt contribute to morphological developments. Both fractions are accounted for in the model using a sand-silt interaction module.

The model was calibrated against historical morphological developments at a location which served as role model for the other locations. A large nature development has taken place since the construction of dams in this area, because the velocities decreased and as a result sedimentation occurred. The same idea of reducing velocity and stimulating sedimentation is also used in other locations, which currently have a low nature value.

The figure above shows an example of the morphological developments calculated using FINEL2d near a location called "Osenisse". The velocities in a small channel near the dike are reduced by constructing dams in the channel (upper figure). After 10 year the area between the dams is filled up (lower figure) with silt and the sandy channel is relocated more northwards. The areas between the dams can become valuable nature areas.

Client
Province of Zeeland

Location
Western scheldt (the Netherlands)

Date
2008

Services
Morphological simulation using
FINEL2d,
Sand-silt-interaction module

Svašek Hydraulics

Schiehaven 13G, P.O. Box 91, 3000 AB Rotterdam, The Netherlands.
Phone +31 10 467 13 61, Fax +31 10 467 45 59, Internet: www.svasek.com, E-mail: info@svasek.com

SV1480