The value of the Waterharmonica for Waternet











24 April 2009, 12.00 - 15.30

Program 24 - 4

- Opening
  - Ruud Kampf, Waternet
- The importance of the Watercycle for Waternet
  - *Jan Peter van der Hoek, Waternet*
- The role of reuse of treated waste water in the water cycle, the situation of Costa Brava
  - *Lluis Sala, Consorci de la Costa Brava*
- The Waterharmonica in Costa Brava: Empuriabrava and Aiguamolls Natural Park
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- Discussion: 'value of wetlands and what can we learn from the Spanish approach?'

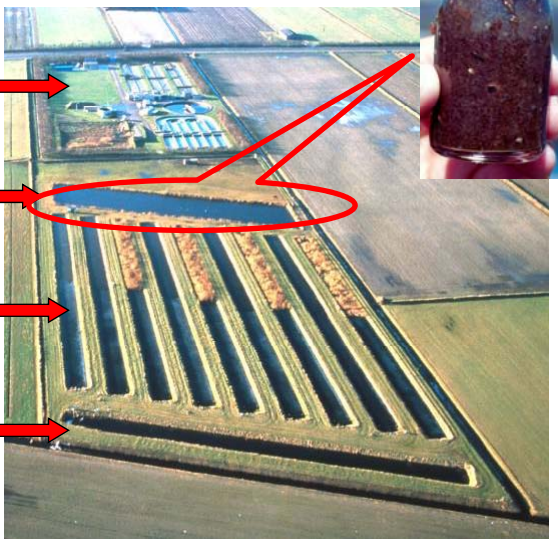
Everstekoog, Texel

sewage treatment plant

presettling basin

9 parallel ditches with reed/cattail and aquatic plants

discharge ditch



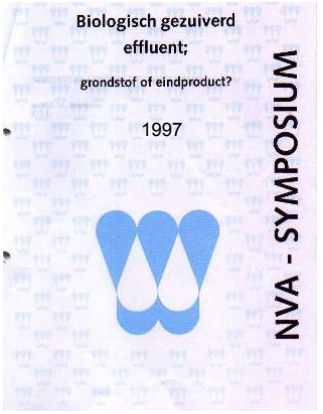
Research project
1995 - 1999

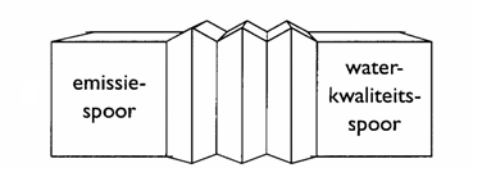
Experiments Everstekoog, Texel

1998 - 2006

stowa
1971-1996
Stichting Toegepast Onderzoek Waterbeheer

25 jaar toegepast onderzoek waterbeheer
jubileumsymposium STOWA 13 september 1996





Stowa reports

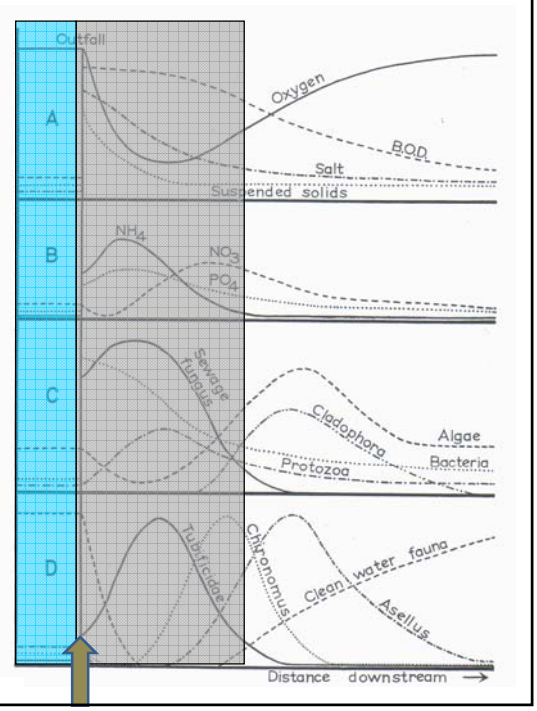
Influence of a wastewater discharge

A physical – chemical

B nutrients

C micro-organisms

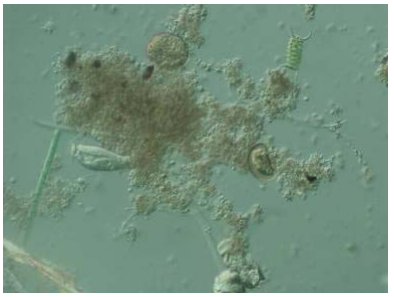
D macro-organisms



Based on Hynes, 1960 The biology of polluted waters

But: Treated wastewater

- regional STP's: water from a large area
- influence at effluent discharge:
  - sludge particles, flocs
  - loose bacteria
  - odor, foam
  - low O_2



"Dead water", not satisfied with quality

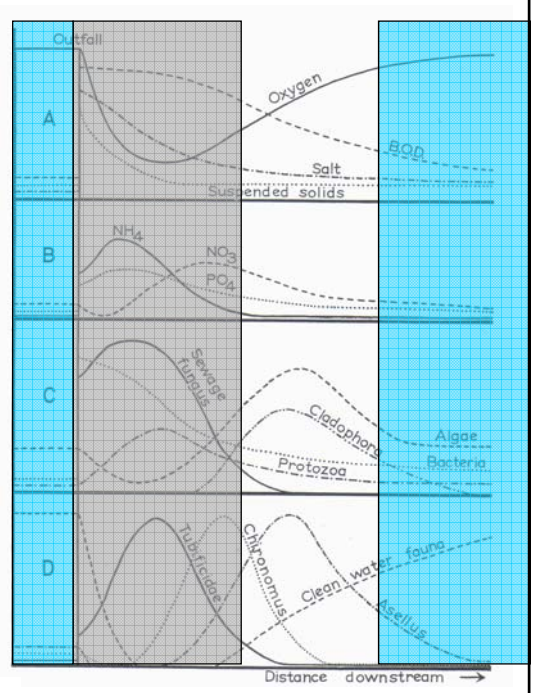
Schematic effect of discharges of wastewater

A physical – chemical

B nutrients

C micro-organisms

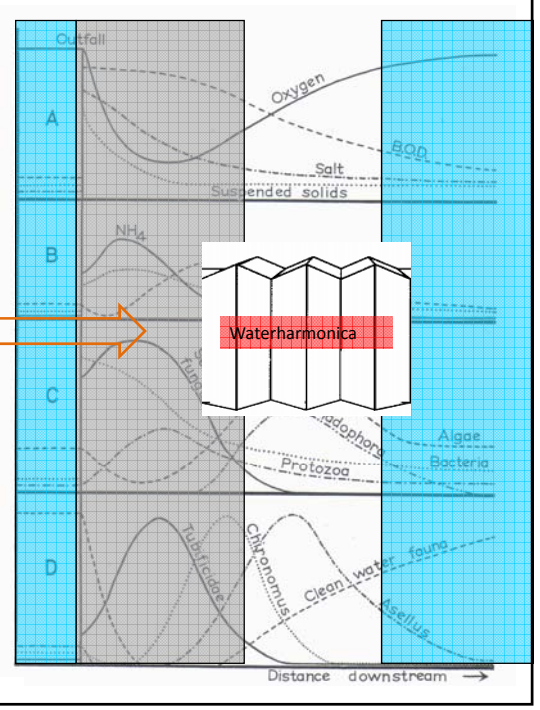
D macro-organisms



Based on Hynes, 1960 The biology of polluted waters

The Waterharmonica:

Bridge between sewage treatment and surface water



Based on Hynes, 1960 The biology of polluted waters

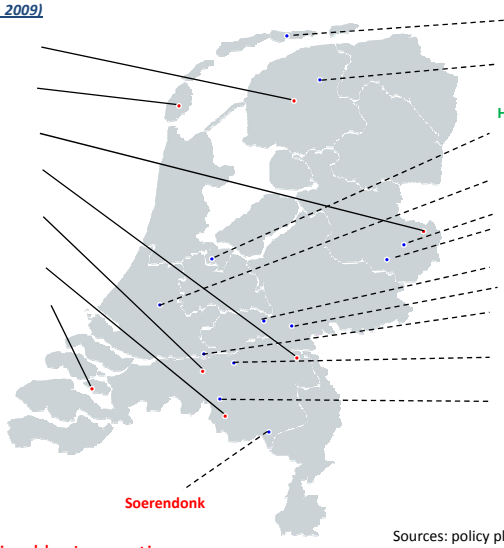
WATERHARMONICA SYSTEMS

Existing (constr 1994 - 2009)

- Grou
- Everstekoog
- Ootmarsum
- Land van Cuijk
- Klaterwater Efteling
- Hapert
- Sint Maartensdijk

PLANNED (2009 - ?)

- Ameland
- Bergumermeer
- Horstermeer and Amstelveen
- Berkenwoude
- Enschede
- Haarlo
- Dreumel
- Valburg
- Dussen
- Den Bosch
- Biest-Houtakker
- Soerendonk



2010:
subsidised by Innovation program

Sources: policy plans water authorities
Senter-Novem innovation programme

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