Ecobeach

A wider and dryer beach by passive drainage

Bas Reedijk, Ad van ‘t Zelfde, Jelle-Jan Pieterse, Martijn Meijer

b.reedijk@baminfraconsult.nl
www.dmc.nl
www.ecobeach.nl
www.ecobeach.es

Dutch Ecobeach Pilot (2006 – 2010)

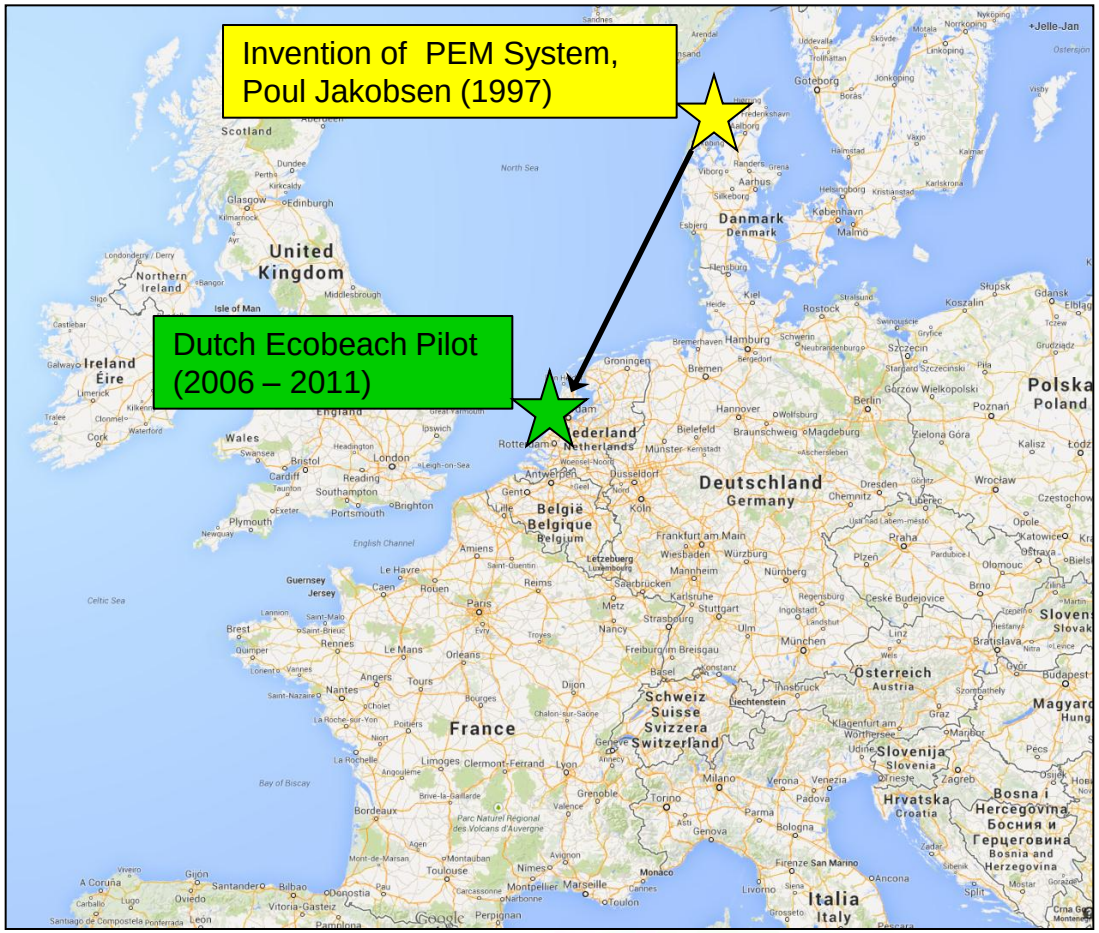
6 km Ecobeach test site - along North Sea coast - Egmond aan Zee (Netherlands)

Involved organisations:

- BAM
- Dutch Ministry of Public Works
- Universities of Delft and Amsterdam
- Scientists:
  - Geohydrology
  - Morphology
  - Coastal Ecology
  - Sedimentology

Beach at Egmond aan Zee:

- Very well monitored since 1965
- Test area north (3 km); *influenced by nourishments*
- Test area south (3km); *relatively undisturbed*

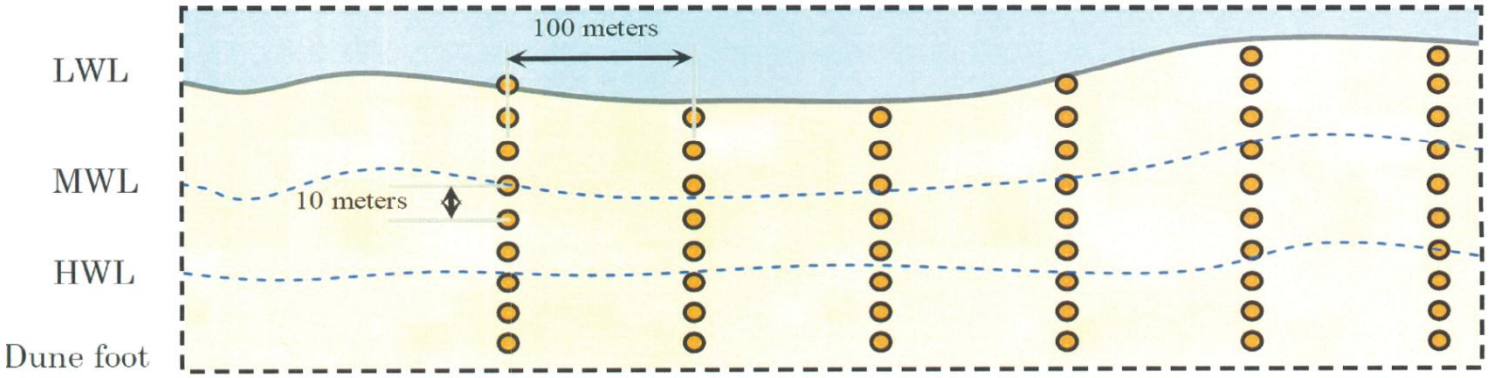


Placement of the Ecobeach drainage tubes

Within the intertidal zone of a sandy beach

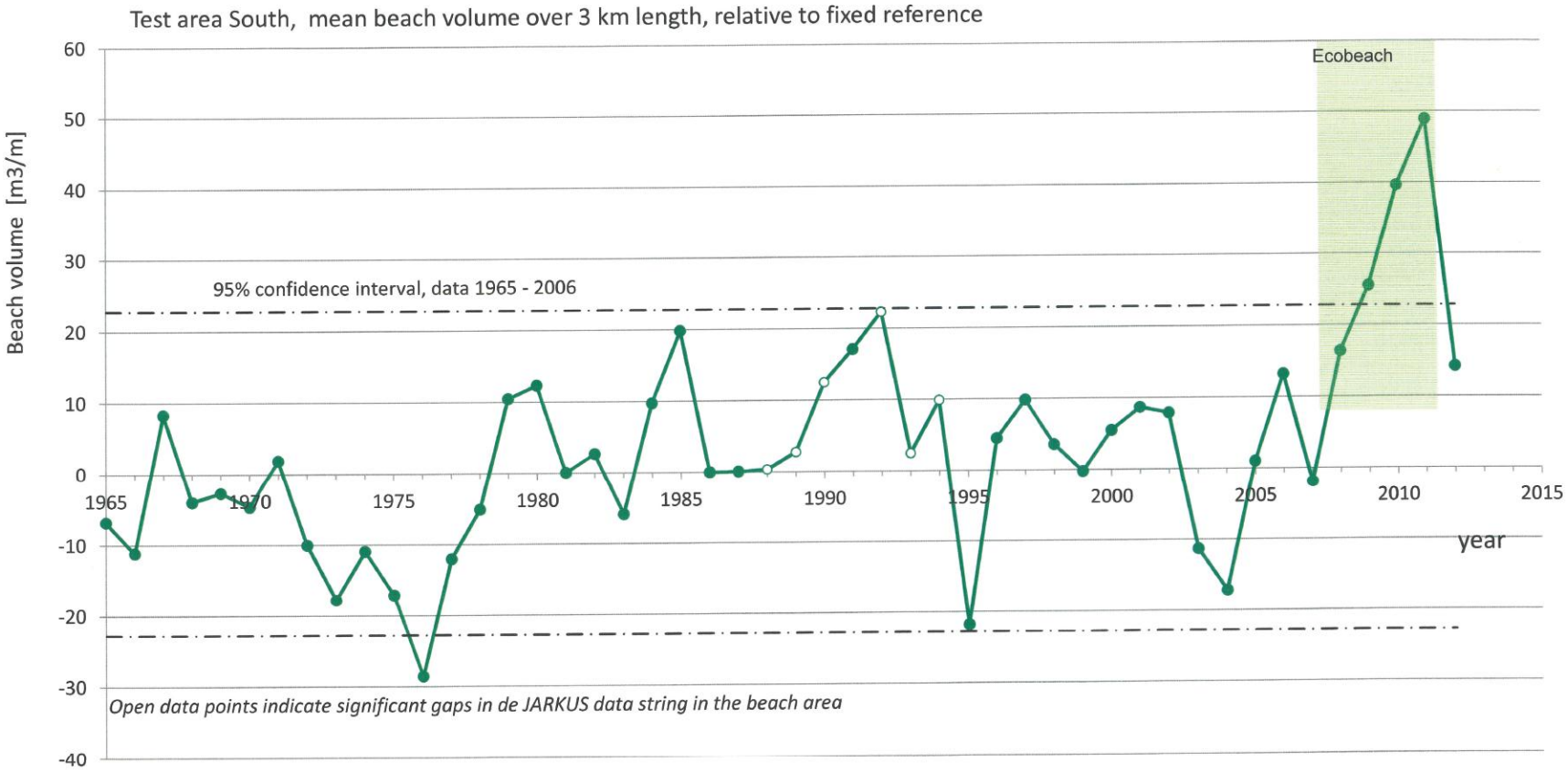
Configuration of the Ecobeach tubes:

- Vertical drainage tubes with a length of 1.75 m
- Installed between the high and low waterline at 0.25 m below the beach surface.
- Cross shore interspacing of 10 m
- Long-shore distance between the rows of 100 m.



Test results – Beach volume

Highest beach volume ever measured at the test location



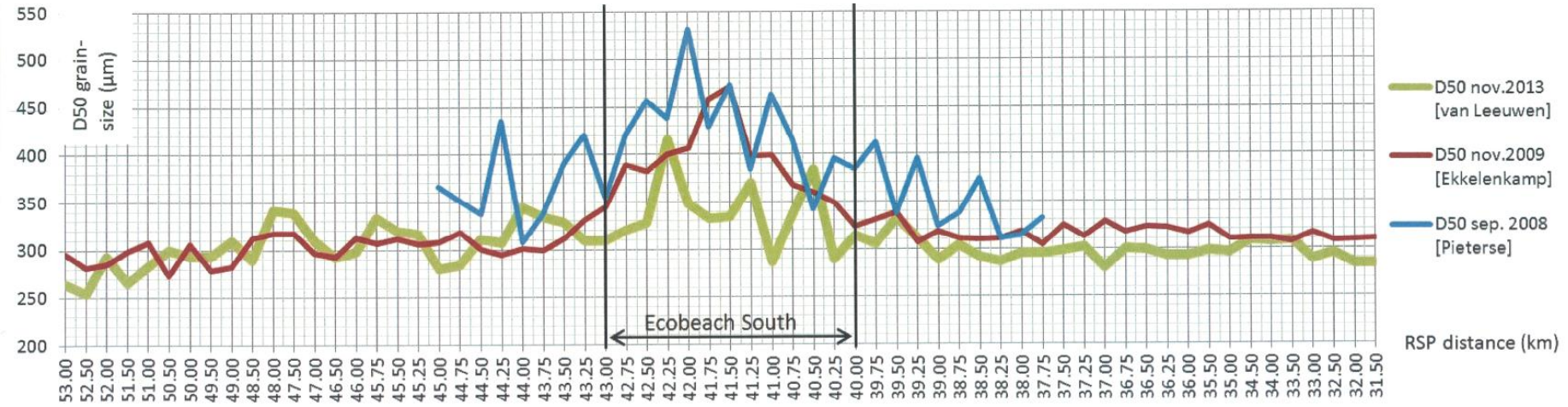
Beach volume southern Ecobeach test area (3 km length):

Between 2007 – 2011: 50 m³/m' gain of beach volume

In 2011: highest beach volume ever measured (since 1965)

Test results – Grain size analysis

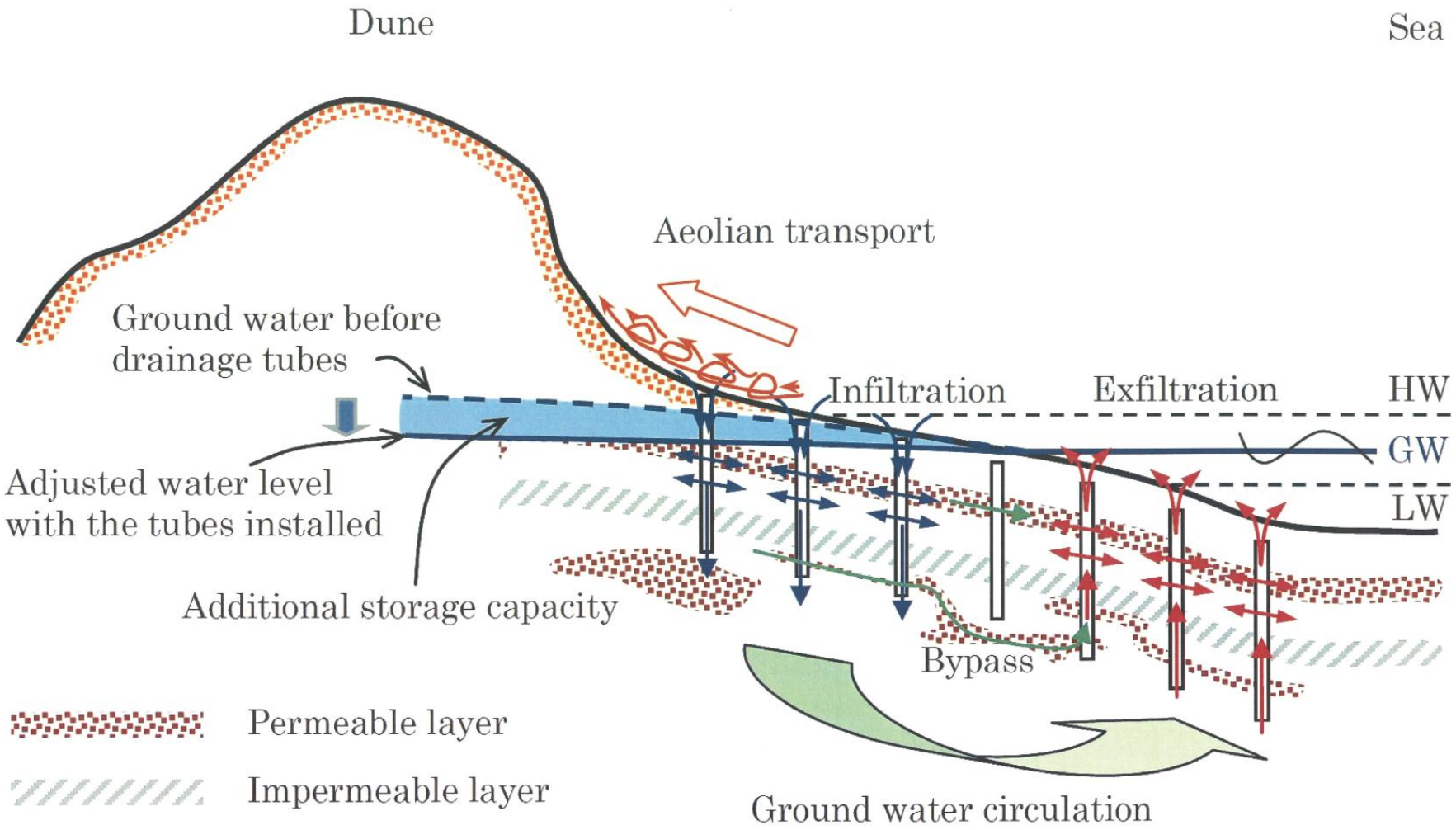
Sediment within southern test area is 30% coarser than surrounding areas



- **Coarser sand only in the active zone (upper 2 m)**
- **Below active zone original beach sand**
- **Also in Denmark coarser sand found in the test areas**

Working Mechanism

Conclusions 2014 – research still in progress



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