



maurice.paulissen@wur.nl

michel.riksen@wur.nl

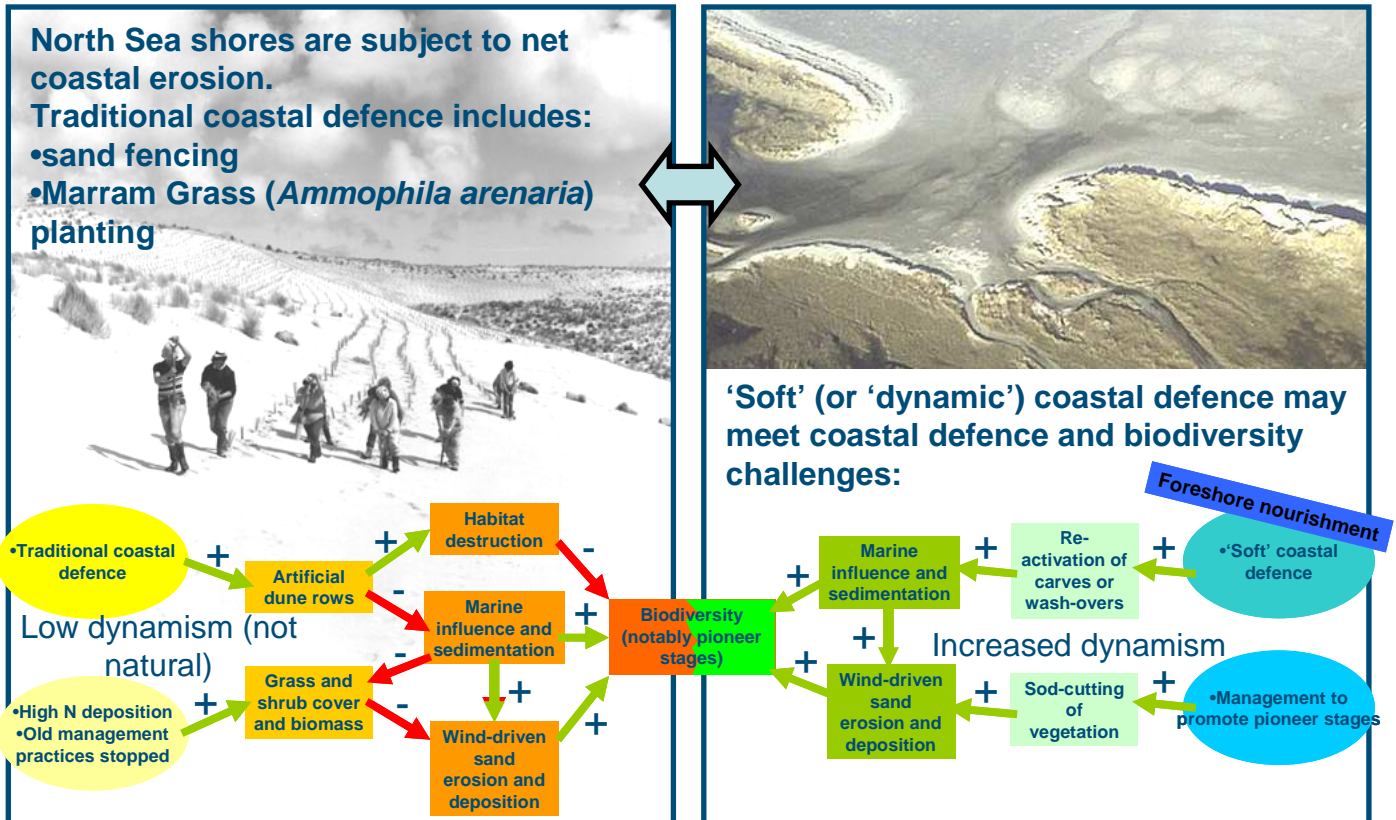
mink.zijlstra@wur.nl

Ecological Optimization of 'Soft Coastal Defence

Maurice Paulissen, Michel Riksen & Mink Zijlstra

Major challenges of coastal dune management along the North Sea:

1. coastal defence in a period of sea level rise
2. maintenance and increase of biodiversity under the EU Birds and Habitat Directives



Wageningen Soft Coastal Defence project (2007-2011) aims at optimizing coastal defence and biodiversity functions of dunes

1. Field measurements on the Isle of Ameland to establish a database on:

- sand transport and deposition processes
- soil and vegetation development

Wageningen University (Michel Riksen, Mink Zijlstra, Leo Stroosnijder)

2. Developing a model describing formation of embryonic dunes and dune slacks, including:

- geomorphology
- plant ecology
- hydrology

Wageningen University (Mink Zijlstra, Frank Berendse), Alterra, Wageningen UR (Han van Dobben)

Beach and foreshore nourishments

Optimum



Dune formation

conditions

3. Scenario testing

- sand nourishment and dune management
- climate change (sea level rise, precipitation pattern, storm frequency)
- air quality (salt spray, N deposition)

Connecting science and policy

- mapping underexposed EU Habitat types (e.g. beach, drift lines and embryonic dunes)
- exploring options for beach reserves
- disseminating and popularizing project output

Alterra, Wageningen UR (Pieter Slim, Han van Dobben)

Part of Wageningen UR IP/OP theme
Sea and Coastal Zones, including
PhD projects

Secretary: oscar.bos@wur.nl