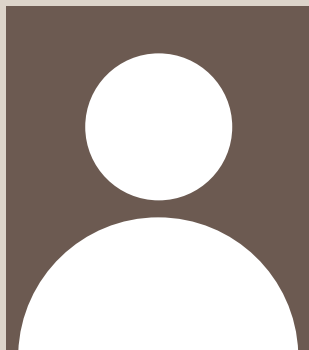


# CONGRESS DAY 1:

## THEME: RESTORATION OF DUNE DYNAMICS



### COASTAL MANAGEMENT IN THE NETHERLANDS

By **Joost Veer**, Hoogheemraadschap Rijnland

My story is that of the development of the hydraulic engineering coastal policy and management. It begins with the problems of coastal erosion and narrow beaches in the seventies and eighties, which eventually resulted in the introduction of the Basic Coastline. That coastline may be the answer to progressive erosion, but it does not immediately guarantee water safety. Moreover, the effects cannot be noticed everywhere at the same time which is why management of the dunes as flood defence has not yet kept up with the changes. New insights into the strengths of flood defence compel large-scale reinforcements of weak links. Large masses of sand are a convenient solution, but how do we apply this so that management is thoughtful and effective, and that opportunities are created for nature and recreation as well?



### DYNAMIC FOREDUNE MANAGEMENT IN THE NETHERLANDS

By **Bas Arens**, researcher

Coastal dune managers were busy reining in dynamics until about 1980. A great deal of marram grass had to be planted after the storm season each year to hold down the blowing sand. Now the roles are reversed. The dune is growing thick and dune managers are in full swing removing marram to get the dunes moving again. Coastal management has also changed fundamentally. Whereas the means to stabilise the coast used to be limited to intensive management of the beach, nowadays coastal erosion is structurally compensated by means of sand nourishment. The reason for intensive management of the coastal strip has thus been removed: dynamic coastal management is the motto today. The results of this are attractive changes along the coast. The eroded coast of yesteryear are scarcely to be found any more. In contrast, it turns out that the coast is growing to a greater or lesser extent. This has major consequences on nature.

# CONGRESS DAY 1:

## THEME: RESTORATION OF DUNE DYNAMICS



### DUNE REJUVENATION MANAGEMENT IN WALES

By **Duncan Ludlow, Senior Reserves Manager Natural Resources Wales**

This presentation will look at the dune rejuvenation project at Merthyr Mawr Warren National Nature Reserve (NNR), part of Kenfig SAC, South Wales. This dune system is one of three sites in Wales selected by Natural Resources Wales (formerly Countryside Council for Wales) as suitable for dune rejuvenation. The project aims to create suitable habitats for pioneer invertebrate and plant species which are currently threatened by the stability of the dune system. The presentation will cover the selection of the project area, techniques, issues and progress of the project so far. It will also include details of rejuvenation work carried out on two other sand dunes in Wales - Newborough Warren NNR (part of Y Twyni o Abermenai i Aberffraw SAC) and Kenfig NNR (part of Kenfig SAC).



### BEACH-DUNE INTERACTION FOR DYNAMIC COASTAL MANAGEMENT

By **professor Gerben Ruessink, Universiteit Utrecht**

In his presentation Gerben Ruessink will discuss present-day practices in (Dutch) coast-dune Measures to mitigate coastal erosion often comprise sand nourishments on the foreshore and the beach, where waves, currents and wind are expected to re-distribute the sand. Safety-oriented measures sometimes lead to a loss of natural dynamics, which may endanger coastal ecosystems and, paradoxically, long-term coastal safety. Measures for nature development, in contrast, often involve the re-activation of natural dynamics, especially that of the foredune and more landward parabola dunes. Building with and for Nature, and hence a unified view on beaches and dunes, may result in more sustainable and climate-proof dune system than the present-day management focus on safety. This demands pilot projects ('Learning by doing') coupled with extensive monitoring of physical, ecological and geo-chemical processes and changes, to be ready for the challenges of the decades to come.

# CONGRESS DAY 2:

## THEME: HABITAT RESTORATION OF GREY DUNE GRASSLANDS



### WHAT'S THE PROBLEM WITH OUR DUNE GRASSLANDS?

By **Annemieke Kooijman, Universiteit van Amsterdam**

Coastal dune grasslands are under threat in many dune areas mainly due to grass and shrub encroachment. A surplus of nitrogen deposition is an important factor. Because of agriculture, industry and traffic the amount of nitrogen deposition went up to about 45 kg. The last twenty years it is reduced to about 30 kg ha<sup>-1</sup> year<sup>-1</sup>. This high nitrogen deposition is a problem for a favourable conservation status of Grey dune habitats. It is unclear to what extent this atmospheric nitrogen is influencing the soil. For the management it is important to gain more insight into this and the role of soil life. What are the differences between calcareous and decalcified dune soils with respect to soil communities and soil nitrogen availability? What are the implications for the effectiveness of sod cutting?



### RESTORATION OF GREY DUNES IN THE NETHERLANDS: A MATTER OF SCALE?

By **Mark van Til, Waternet and Dick Groenendijk, PWN**

In the last decades grey dunes in The Netherlands have suffered from grass and scrub encroachment due to prolonged nitrogen deposition, stabilisation and rabbit decline. Different management approaches will be elucidated, which have been applied in the Dutch mainland dunes. We will focus on the effects of restoration projects regarding the scale of implementation, soil and vegetation development and return of characteristic grey dune fauna species, and the sustainability.



### RESTORATION OF DUNE GRASSLANDS IN BELGIUM

By **Sam Provoost, Research Institute for Nature and Forest, Brussels, Belgium**

During the past century, dune grassland in Belgium was subject to a drastic decline in surface area and quality due to urbanisation and vegetation succession. Since the late 1990's relatively large scale restoration measures were taken, including scrub removal and (re-)introduction of livestock grazing. Most of these projects were co-financed by European LIFE projects. Restoration success in terms of flora strongly depends on relic populations as most of the characteristic plant species have no persistent soil seed bank. This is confirmed by flora and vegetation monitoring. Unfortunately, effects on fauna are hardly monitored.