



Composition of the group

The following institutions participate in the trilateral expert group:

- Kystdirektoratet (DK)
- Sønderjyllands Amt (DK)
- Rijkswaterstaat Directie Noord-Nederland (NL)
- Rijksinstituut voor Kust en Zee (NL)
- Expertisecentrum LNV (NL)
- Nationalparkverwaltung Niedersächsisches Wattenmeer (D)
- Niedersächsischer Landesbetrieb für Wasserwirtschaft und Küstenschutz (D)
- Innenministerium Schleswig-Holstein (D)
- Common Wadden Sea Secretariat

Contact

Dr. Jacobus Hofstede
(Chairman CPSL II)
E-mail: jacobus.hofstede@im.landsh.de
Phone: (+49) (0) 431-988 4984

Manfred Vollmer
(secretariat)
E-mail: vollmer@waddensea-secretariat.org
Phone: (+49) (0) 4421 9108 18



Outlook

The results were also presented and acknowledged at the 9th Trilateral Governmental Conference for the Environmental Protection of the Wadden Sea (Denmark, 2001). Recognising the high actuality and exigency of sustainable coastal defence strategies, the ministers of the environment decided to continue the work of CPSL.

In a second phase (CPSL II), started in autumn 2003, the work is focusing on elaborating integrated coastal defence solutions, which stand a feasibility check on:

- safety standard,
- natural assets (best environmental practices),
- cost-benefit,
- public acceptance,
- legal aspects, and
- "harmony" with other interests in the Wadden Sea (e.g. tourism).



Furthermore, the solutions elaborated for one part of the Wadden Sea (e.g. barrier islands) should have no adverse effects on other areas (e.g. tidal flats). As the optimal solution strongly depends upon the future development of the Wadden Sea (CPSL I), two geomorphological scenarios: (1) below breakpoint, and (2) above breakpoint will be elaborated.

The results of CPSL II will be used as input for the 10th Trilateral Governmental Conference on the Protection of the Wadden Sea on the island of Schiermonnikoog on 2 November 2005.

More information?

The results of the work, carried out in the period 1999 till 2001, are in the report: CPSL 2001. Final Report of the Trilateral Working Group on Coastal Protection and Sea Level Rise. Wadden Sea Ecosystem No 13. CWSS, Wilhelmshaven, Germany

Published by the Common Wadden Sea Secretariat (CWSS), Wilhelmshaven, 2003
Photos: J. Hofstede
Layout & Production: Druckerei PLAKATIV, 26209 Kirchhatten, Germany

Coastal Protection and Sea Level Rise CPSL



The trilateral expert group on
sustainable coastal defence
for the Wadden Sea



Rationale

At the 8th Trilateral Governmental Conference for the Environmental Protection of the Wadden Sea (Germany, 1997), it was decided to investigate possible effects of accelerated sea-level rise. Furthermore, on the basis of such an investigation, proposals for future integrated coastal defence and nature conservation policies should be developed. Due to this task, a trilateral expert group, the Coastal Protection and Sea Level Rise group (CPSL), was installed in 1999. The members of the group represent coastal defence and nature conservation authorities in the three Wadden Sea countries.



Procedure

In a first step, a common understanding of processes in the Wadden Sea (morphology, biology and coastal defence) was defined. On the basis of this, for three scenarios (sea-level rise of 10 cm, of 25 cm and of 50 cm until 2050), impacts on selected physical, biological, and socio-economic parameters were investigated. In a third step, a first screening of sustainable coastal defence measures (best environmental practices) to secure present safety standards in the future, was conducted. Finally, the expert group formulated several recommendations for policy, management and research.

Common Knowledge Base

The expert group reached a common agreement on basic facts of the following processes:

- The Wadden Sea is composed of inlet systems, sharing sand between the following elements: barrier islands, tidal inlets tidal deltas, tidal channels, tidal flats and salt marshes.
- The Wadden Sea shows a strong natural variability.
- The Wadden Sea has a high natural resilience to changes.
- Because of strong natural dynamics, trends will not easily be detected.

Basic Messages

For the most realistic scenario (25 cm of sea-level rise in 50 years):

- Changes in the Wadden Sea ecosystem (morphology and biology) are expected not to be substantial.
- Costs for coastal defence might increase by 5 to 15%.

For the "worst-case" scenario (50 cm of sea-level rise in 50 years):

- The capacity of the system to balance changes might become exhausted.
- The Wadden Sea tidal basins might start to evolve into tidal lagoons.
- These morphological changes will substantially influence the biology
- The costs for coastal defence might double.

The "Breakpoint"

The group expects that, between the most realistic and the worst-case scenarios, there will be an upper limit of capacity from which the tidal basins will start to evolve in the direction of tidal lagoons (i.e. a reduction of tidal flats).

The exact position of these breakpoints, i.e., at which rate of sea-level rise this will occur, varies strongly among the tidal basins. Hence, with regard to the strong natural variability, each basin should be investigated separately.

