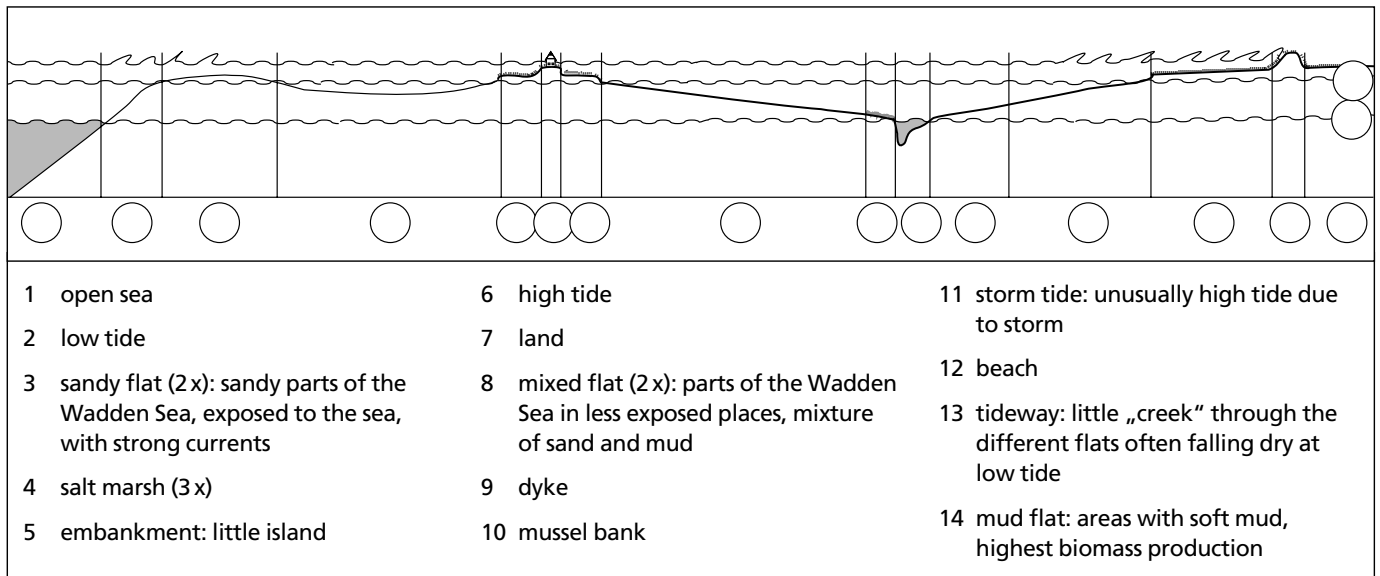


Fig | 1 Cross-Section of the Wadden Sea



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Fig | 2 The Biological Importance of the Wadden Sea

The importance of the Wadden Sea as a habitat for birds, seals, shellfish and fish stems from the high growth rate of algae, the so-called primary production. Two factors are essential for this high primary production. Because the water is shallow, there is sufficient light for algae to grow. Secondly, the water of the Wadden Sea contains many nutrients which are also essential for the algae growth. In addition algae are imported from the North Sea. These account for almost half of the food resources in the Wadden Sea.

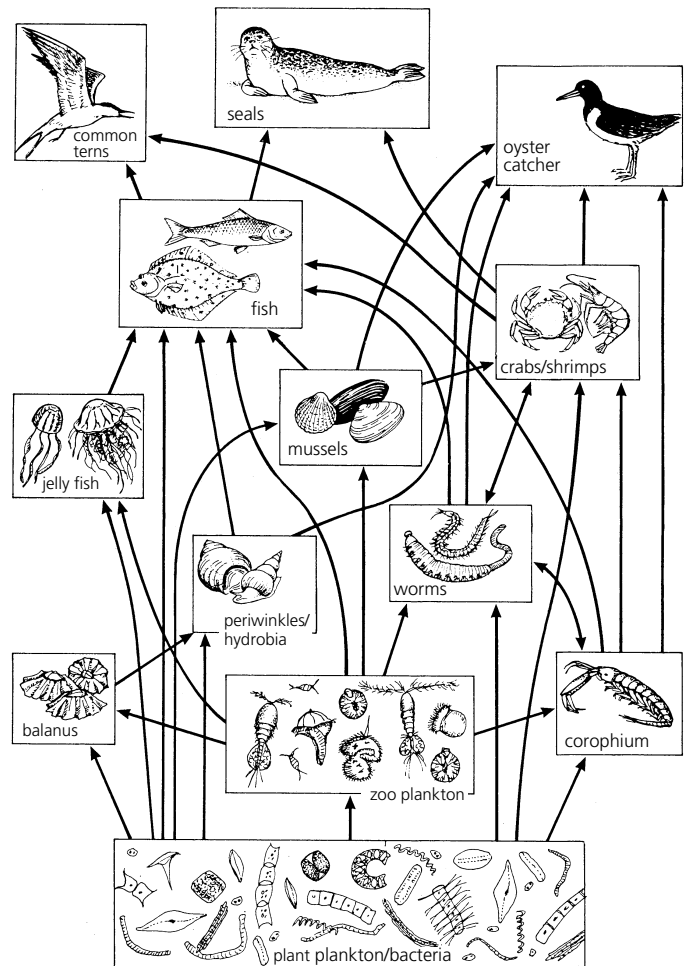
The Wadden Sea ecosystem is very dynamic with regular and unexpected changes from one extreme situation to another. Factors such as temperature with the possibility of ice, salinity, storms, waves and currents vary greatly. Only species which have adapted to these extreme conditions can exist here. That is the reason why the Wadden Sea species, and consequently the ecosystem itself, have a large potential for survival.

The Wadden Sea provides a multitude of transitional zones to the land, the sea and freshwater environment, which is the basis for an exceptional richness in species. This includes 2,000 species of spiders, insects and other invertebrates in the salt marshes and 1,800 in the marine and brakish areas. Among these organisms, there is a high degree of ecological specialization. On the tidal flats, to the contrary, only a few species of flora and fauna have adopted to the extreme environment. Of these, however, exceptionally high numbers can be found. The high biological productivity of the tidal flats is comparable with that of tropical rainforests.

Adapted from: Common Wadden Sea Secretariat (Hrsg.): The Trilateral Cooperation on the Protection of the Wadden Sea. 1999

- Words: habitat – Lebensraum
nutrients – Nährstoffe
salinity – Salzgehalt
current – Strömung
invertebrates – Wirbellose
brakish area – Brackwasser

Fig | 3 Food Web



adapted from: WWF 1991

ASSIGNMENTS

1. Label the diagram by using the words below (Fig 1).
2. Characterize the Wadden Sea. Describe its main features and work out the living conditions (Fig 1, Fig 2; atlas).
3. Find six different food chains and name the different trophic levels (Fig 3, Fig 4).