

COASTAL SEAS UNDER PRESSURE

ALIENS AND NEW CHEMICALS



Native mussels (above) have become displaced by Pacific oysters which escaped from aquaculture farms.

Globalization has resulted in an extraordinary rate of marine species invasions which have brought European coastal ecosystems into an unprecedented phase of change with unknown consequences.

ALIENS AT OUR COASTS – FRIENDS OR FOES?

Interactions of aliens with the pre-existing ecosystem can have consequences from being beneficial to disastrous for the established species as well as for the economy.

The American razor clam arrived in ballast water around 1978 and found an empty niche in the coastal North Sea.



Lipophilic substances accumulate in the marine food chain. Thus, higher trophic level organisms like fish, seabirds and marine mammals are highly vulnerable to contamination.



NEW CHEMICALS: A HOMEMADE TIME-BOMB?

Civilization has produced more than 100,000 chemicals in everyday use. Most of these will end up via various discharge pathways in the coastal environment. New compounds with as yet unknown effects on marine organisms are constantly being developed and released into the environment.

RESEARCH NEEDS

- ▶ to improve analytical techniques
- ▶ to develop biotest
- ▶ to assess evaluation criteria
- ▶ to implement better monitoring strategies