

Humans 'destroying coastal life'

Human activity has had a devastating effect on coasts since Roman times, research suggests.

More than 90% of coastal life has declined and there is widespread degradation of water quality.

Scientists studied 12 estuarine and coastal regions in Europe, North America and Australia from the onset of human settlement until today.

Their findings, reported in *Science*, suggest that 20th Century conservation efforts have had only limited success.

A team from nine research centres in the US, Canada, Australia and Panama used archaeological, historical and ecological records to study the human footprint on coasts and estuaries over the past 2,500 years.

The group found that depletion of natural resources began during Roman times, then accelerated in Medieval times and in the wake of European settlement in North America and Australia.

'Forgotten resource'

Many of the biggest declines were seen from 1900 to 1950 and 1950 to 2000 as populations grew and industry boomed.

REGIONS STUDIED

W Baltic Sea
Wadden Sea
N Adriatic Sea
Southern Gulf St Lawrence
Outer Bay of Fundy
Massachusetts Bay
Delaware Bay
Chesapeake Bay
Pamlico Sound
Galveston Bay
San Francisco Bay
Moreton Bay

Mammals, birds and reptiles were among the first to suffer, exploited for food, oil and luxury goods such as furs, feather and ivory, the authors say.

Most were depleted by 1900 and declined further by 1950. Fish such as salmon, sturgeon, tuna, cod and sardines were quick to follow, with shellfish such as mussels only recently becoming the targets of expanding fisheries.

Plant life has also suffered badly, with 67% of wetlands, 65% of sea grasses and 48% of other aquatic vegetation lost through disease, destruction or direct exploitation.

"Throughout history, estuaries and coastal seas have played a critical role in human development as a source of ocean life, habitat for most of our commercial fish catch, a resource for our economy, and a buffer against natural disasters," said lead researcher Heike Lotze of Dalhousie University, Halifax, Canada.

"Yet, these once rich and diverse areas are a forgotten resource.

"Compared to other ocean ecosystems such as coral reefs, they have received little attention in the press and are not on the national policy agenda.

"Sadly, we have simply accepted their slow degradation."

The researchers say conservation efforts in the 20th Century have led to partial recovery of 12% of the species.

Some - such as seals, otters, birds, crocodiles and alligators - have done well; but others such as large whales, sea turtles, manatees and dugongs remain at low levels.

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