

# Sounding an SOS for our troubled seas

The waters around these islands are warming and that is having an impact on some seabird populations. **Richard Collins** looks at the long-term consequences

**G**LOBAL warming is really ocean warming. The seas, more than 10km deep in places and covering 71% of the Earth's surface, have a huge capacity to absorb the sun's heat. Land masses heat up and cool down quickly but sea temperature changes imperceptibly. The ocean is not easily provoked temperature-wise but we should not take this for granted.

Global warming depends on many things, the orbit and tilt of the planet, fluctuations in the output of the sun, and the dimming effect of particles spewed into the atmosphere by volcanic eruptions are significant factors. Human beings began changing the climate 10,000 years ago when they started clearing land for farming; forests act as heat sinks, grasslands don't.

Then, in the 18th century, the large-scale burning of fossil fuels commenced and, since the start of the Industrial Revolution, our fires and machines have been belching prodigious quantities of carbon dioxide into the atmosphere. A greenhouse gas blanket, wrapped around the Earth, traps ever-increasing amounts of the sun's heat,

which is absorbed by the world's oceans.

The effects of climate change have long been evident on land. Now, ominously, changes are becoming apparent in the seas. The polar regions are warming more quickly than those of the tropics and the ice-caps are melting. But more southerly waters are also in turmoil; the ferocious hurricanes of recent years are driven by energy stored in warmer seas.

Animals and birds are often the first to detect environmental changes. Cod and haddock seem to be moving out of our waters and fish species hitherto unknown here are turning up off our coasts. These are not creatures which live in cool seas, but warm-water ones.

The trigger fish, a recent arrival, is a fat comic-book creature which investigates, and occasionally bites, swimmers. There have even been reports of great white sharks in British waters. This feared predator visits the Bay of Biscay but reports of it nearer home are, so far, inconclusive.

The notorious shark is not welcome but cetaceans are ever-popular. The world's largest animals seem to be commoner now and

Ireland has a fledgling whale-watch industry. Whales like cold food-rich Arctic seas, but their new-born calves would perish in such waters and so the pods move south to breed. With warmer seas, they need not travel so far. They may be lingering for longer periods off our coasts.

But the seas are not just the realm of fish and whales. They also support huge populations of birds. Here, the picture is less rosy and BirdWatch Ireland is sounding the alarm bells.

The snake pipefish is an eel-like creature, yellow-brown in colour. Its numbers have increased enormously in the seas around Britain in recent years. The fish is of limited value to seabirds, being bony, hard to digest and not a suitable food for chicks. It has almost become an indicator species: if pipefish are being fed to chicks, the normal prey is deemed to be scarce. Kittiwake and Arctic tern numbers have fallen at colonies in the Shetlands and Orkneys and lack of food may be responsible. At any rate, the adults there have resorted to feed-

ing pipefish to their young. But is this change a consequence of the abundance of pipefish? Are the adults taking the lazy option of catching them rather than pursuing their normal prey, sprats and sandeels? We don't have the answers.

Now, puffins are feeding pipefish to their young in the colonies off Kerry, the Skelligs, Puffin Island and the Tearacht. The reports, which are anecdotal, also suggest that very few puffin pairs managed to raise young last year, although the situation is said to have improved this summer.

Does this mean that the normal prey items, sprat and sandeel, have become scarce? Siobhán Egan, BirdWatch Ireland's policy officer, is cautious.

"We know very little about the habitat requirements of these prey species apart from their need for sand banks and nursery beds," she says. Detailed research is urgently needed on this and on the food requirements of young puffins. The needs of more secretive species, such as the Manx shearwater which also nests in burrows, are even less well understood.

But not all seabirds are suffering. Gannets were

eaten during the great famine of the 1840s but their populations have managed to recover. The lowest point in their fortunes occurred about 1880. There were only two colonies then and the one on Little Skellig had only 30 nests.

In 1882, however, there were 150 to 200 nests and by 1908, almost as many as there are today. In 2004, Alyn Walsh of the Wildlife Service, took a series of high resolution photographs from an aircraft. The nest total was 29,683. Gannets first bred on the Bull Rock, off Dursey, in 1858. There have been about 1,500 nests in recent years. A tiny Clare Island colony dates from 1978 but in 1989, the birds set up shop on Ireland's Eye, a mere 14km from the centre of Dublin. It had

188 nests by the year 2000. Despite the massive changes in the marine environment, the gannet population seems to be increasing with compound interest, the lat-



est colony being established on Lambay two years ago.

Perhaps gannets are more tolerant of warm waters than puffins. They will eat the small fish puffins like, but larger ones, such as mackerel and herring, are more to their liking. A drop in sprat and sand eel numbers would not necessarily impact on them.

Where we go from here is anybody's guess. The sudden melting of the ice-caps may produce a temporary cold spell, as thawed-out fresh water pours into the polar seas. This is believed to have occurred at the end

**Puffins are now feeding pipefish to their young in the Skelligs, Puffin Island and the Tearacht.**

Picture: Sheena Jolley

of the last ice age and could happen again.

It's also possible that the 'great ocean conveyor', whose local branch is the Gulf Stream, will be disrupted. The effects of a reversal of that would be catastrophic for Europe. Even if we manage to mend our ways, which seems increasingly unlikely, and the global warming process goes into reverse, the seas will take ages to cool down.



A gannet in search of its next meal off the Old Head of Kinsale. The effects of climate change have long been evident on land. Now, ominously, changes are becoming apparent in the seas.

Picture: Sheena Jolley



**Kittiwakes at a breeding colony. Lack of food may be responsible for falling numbers.**

Picture: Mike Brown



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## Starving seabirds

# Another warning

TODAY'S story about our impact on the environment around us is about the bird and fish species around our coast.

The effects of climate change have long been evident on land but now changes are becoming apparent in the seas too. Cod and haddock seem to be moving out of our waters and species once thought of as foreign here are appearing along our shores.

Some seabirds are having difficulty in sustaining their populations because traditional prey species are no longer as abundant as they once were.

These may seem benign, even interesting developments, but they are another indication that our impact on climate will ultimately cost us dearly.