MCDONALD'S-ON-SEA

Nature benefits from offshore wind farms. Partly because they increase biodiversity. This is Professor Han Lindeboom's conclusion after a three-year study of the Egmond-on-sea pilot. But what is this based on?

PHOTO: H. VERLAAT

Wind farms 'an oasis of peace' for animals.

Dozens of species are found on the bases of the wind turbines. You call that an increase of biodiversity. Don't you get the same effect when you dump concrete blocks?

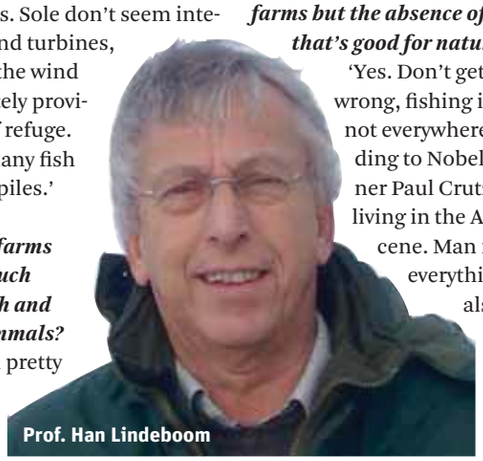
'True, but this isn't the only thing. If you leave an area alone, and there's no fishing, the biodiversity goes up. That's a known fact. We're expecting this to happen here too. But we still have to demonstrate it. Research is still going on.'

Is this increased biodiversity actually natural?

'19th-century maps show there was a boggy area called a 'moorlog' here. Trees stuck out of the ground with all sorts of things growing on them. Now we are creating this ourselves.' It's artificial but it is enriching. Anyway, there are already a lot of rocks and shipwrecks in the North Sea.'

The wind farm was expected to provide shelter for fish and marine mammals. So far that hasn't really happened, has it?

'The effect has been demonstrated for porpoises, but not for seals. The farm lies outside seal territory, being too far away from their resting grounds. Sole don't seem interested in wind turbines, but for cod the wind farm definitely provides a sort of refuge. There are many fish around the piles.'



Prof. Han Lindeboom

Don't wind farms make too much noise for fish and marine mammals?

'No, I am pretty much convinced that there is a lot of other noise underwater. Measurements are now being taken. They show that you can hear all sorts of things under the water. Loud bangs when the Navy blows up old munitions, beach replenishment on the coast, shipping, fishing trawlers. I wouldn't be surprised if wind farms turn out to provide an oasis of peace, simply because it's so busy all around them.

So it's not the presence of wind farms but the absence of fishing that's good for nature?

'Yes. Don't get me wrong, fishing is fine, but not everywhere. According to Nobel prize-winner Paul Crutzen we are living in the Anthropocene. Man influences everything, but is also able to make adjustments. We have created a wind farm in a very busy section of anthropocene sea. For fish and marine mammals this wind farm is a kind of McDonald's-on-sea.

The construction of wind farms is very noisy. How lethal is that?

'The piles at Egmond were sunk with huge thuds. This could kill porpoises within a one kilometre radius. So the solution is: reduce the noise. The technology exists. You could drill for example, or work with what we call 'bubble curtains', a technique for muffling sound. The noise can be reduced if you are willing to pay for it.'

Spinning blades kill birds. Are there any statistics on this?

'Technically it's difficult to assemble data on that. Model calculations show that a turbine here takes out an average of 16 victims per year. That's about half as many as a windmill on land. By chance and to our surprise, the wind farm at Egmond is well-placed as far as birds are concerned. Too far out at sea for land birds and too close to land for seabirds. The Netherlands has nevertheless decided to place new wind farms outside the 12 mile zone. Not good news for seabirds.' **Ⓡ Roelof Kleis**

ENVIRONMENTAL RESEARCH LETTERS

An offshore wind farm has been in operation off the coast of Egmond-on-sea since 2007. Thirty six turbines with a total capacity of 108 MW have been placed in an area of 40 km². All shipping is banned in and around the wind farm. Imares (part of Wageningen UR), NIOZ (Royal Netherlands Institute for Sea Research) and Bureau Waardenburg have been studying the ecological effects of low wind turbines for years. Project coordinator Professor Han Lindeboom (Imares, Texel) published the findings in Environmental Research Letters (number 6, 2001)..