



CO² emissions threatening marine species

Massive CO² emissions are changing the chemistry of the world's oceans and threatening marine species and the wider ecosystem.

Dr Kay Vopel, Senior Lecturer in Applied Sciences at AUT University, says the greatest risk to our marine environment is the accelerating enrichment of seawater with anthropogenic CO².

Vopel's research group is currently investigating how the climate of a high-CO² world will affect coastal ecosystems and is also developing novel tools to assess the sustainability of marine aquaculture.

"This CO² pollution results from our ignorance of the fundamental processes that link the marine environment with the atmosphere and the land."

"The overall human CO² emissions over the industrial era amount to close to 560 billion tonnes. A little

less than half of this CO² remains in the atmosphere acting as greenhouse gas leading to climate change. The remainder is removed in roughly equal parts into the ocean and by land vegetation."

Currently Vopel says annual emissions are around 10 billion tonnes of carbon – a rate that exceeds the natural emissions by a factor of nearly 100. About 87% of this release originates from fossil fuel combustion and cement production and another 12% from deforestation.

"The ocean is a complex system well-designed for maintaining a balance between inputs and outputs of carbon but the current rapid rise in atmospheric CO² exceeds its capacity to maintain this balance which will potentially change the open-ocean and coastal ecosystems in the near future."

Nurses help smokers kick the habit

Nurses are uniquely positioned to help educate and empower smokers to quit the habit, says Grace Wong, Senior Lecturer of Nursing at AUT University and Director of Smokefree Nurses Aotearoa/New Zealand (SNANZ).

The scope of nursing practice combined with their reach in the community and the respect with which they are received puts them in an ideal position to combat smoking, says Wong.

"If one nurse can reach 14 smokers - which is a very realistic target - and support them to give up smoking that would have a dramatic impact on smoking rates in New Zealand."

SNANZ was first launched at AUT University in 2007 to promote the delivery of smoking cessation interventions into nurses' everyday practice throughout New Zealand. It has recently attracted two years' funding from the Ministry of Health.

Recent figures from the Ministry of Health put the number of early deaths caused by smoking at



4,500 - 5,000 each year, including deaths caused by exposure to second-hand-smoke. Ultimately SNANZ hopes to see the smoking cessation interventions become a standard part of nursing practice.

"The steps involved really are as simple as nurses asking their patients whether they smoke, giving brief advice to smokers and then providing cessation support," says Wong.

I have just returned from Flinders University in Adelaide where I opened a new gambling research centre. Gambling, like alcohol, is Janus-faced. With one hand it deals entertainment, companionship, distraction and dreams. With the other it dispenses financial ruin and a toxic trail of personal, family and social devastation. Gambling is also regressive. Lower income people lose relatively more and their losses (operators' profits) have a strong tendency to benefit wealthier communities - a reversal of the Robin Hood principle.

Australia and New Zealand have histories of gambling going back to early colonial days. However it was not until the late 1980s, following the introduction of 'pokies' and casinos, that participation and expenditure began to escalate rapidly. In recent years, in this country, annual gambling losses have levelled out at about \$2 billion - \$5.5 million per day.

There is growing interest internationally in developing policies and services to prevent and reduce health and social harm associated with gambling. New Zealand is widely regarded as a world leader in its approach to gambling regulation and problem gambling. Government has recently announced a \$55 million funding package. This funding, across three years, will enable counselling, education and prevention programmes to continue at about current levels.

Sound policy and effective services require evidence-based information. This is an important focus of AUT University's Gambling and Addictions Research Centre. One of the Centre's current projects involves evaluating the effectiveness of existing and new treatments for problem gambling. The Flinders centre will have a similar focus in Australia and collaborate with AUT colleagues in future studies.

Given the massive harm and social costs, as well as the imminent onslaught of internet and mobile phone gambling, it might be argued that \$55 million - less than one percent of gambling profits - is inadequate. However, in the current policy and financial context, continuity and certainty isn't a bad outcome.



Max Abbott, Pro Vice-Chancellor, North Shore

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