

Reducing drug waste in the environment

October 10 2011

In a letter to the science journal *Nature* this week, Professor Michael Depledge from the European Center for Environment & Human Health warns about the rising levels of pharmaceuticals in our environment.

Writing in the Correspondence section of this week's issue of the leading science journal, Professor Depledge highlights the prevalence of cheap drugs across the globe as a major concern. With global population set to exceed 8 billion by 2050, low cost pharmaceuticals will be increasingly available in large numbers to a growing consumer base.

Combine this with an aging population and it's no surprise that data from the Office of National Statistics suggests medicine usage will more than double in the UK by 2050.

And where does all of this medication end up? In our soils and rivers which, Professor Depledge warns, are becoming increasingly contaminated with a cocktail of drugs including antibiotics, antidepressants and chemotherapy agents.

This rise in pharmaceutical pollution is already beginning to cause noticeable effects with some fish becoming increasingly feminine due to contraceptive pill residues. In India, the native vulture population is under the threat of extinction due to the prevalence of anti-inflammatory drugs in cattle carcasses and, perhaps most worrying of all; antibiotic resistant bacteria are now emerging in the natural environment.

These facts present some cause for concern, but although current

practices remain unchanged governing bodies are beginning to take notice. The European [Environment](#) Agency has suggested improvements in regulations and guidance for pharmaceutical waste management, whilst the UK's Royal Commission on Environmental Pollution has begun to highlight the links between a changing [population](#) and incidence of drug release.

Provided by University of Plymouth

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