

# The **Black Mountain Declaration** on Endocrine Disrupting Chemicals in Australian Waters 2007

## **Background**

On 23<sup>rd</sup> November 2007, a workshop assembly of researchers, policy makers, regulators, water suppliers and research investors met to discuss the matter of Endocrine Disrupting Chemicals (EDCs) in Australian waters. The meeting took place at Black Mountain immediately following a 2-day symposium focussing on the broader issue of chemical contaminants in water.

This document summarises the broad areas of consensus by the individuals present at the workshop. It is intended to inform a wider audience of researchers, policy makers, regulators, water suppliers, research investors and the general public regarding current expert opinion on the matter of EDCs in Australia.

## **Consensus on environmental implications of EDCs in Australian Waters**

There is widespread compelling evidence that a range of natural and synthetic chemicals, which are present in the global environment, are continuing to impact wildlife by a variety of mechanisms that directly or indirectly disrupt the endocrine systems of some species including birds, fish, mammals, reptiles and molluscs.

International reports include cases of physical abnormalities and adverse reproductive impacts. One example in Australia is imposex in marine snails, as induced by the antifouling constituent tributyltin. Recent in-stream measurements of EDCs across Eastern Australia show levels comparable to Europe, implying similar biological impacts are likely in native Australian species. Very limited monitoring and no systematic survey has been conducted in Australia to-date, but we now know EDC exposure occurs from both urban facilities and rural industries. International evidence suggests that similar biological impacts are likely to be identified if well-targeted comprehensive investigations are undertaken.

Given the ultimate importance of reproductive success to species survival, vastly improved knowledge of the impact of EDCs on Australian wildlife is warranted. Furthermore, a precautionary approach towards minimising unnecessary discharge of EDCs to the environment is appropriate.

## **Consensus on human health implications of EDCs in Australian Waters**

Humans, as mammals, have very similar endocrine systems to other species for which impacts of environmental EDCs have been observed. There is clear evidence that humans have been severely impacted by some EDCs when exposed to significant doses in the form of medications or extreme occupational exposure. However, exposure to EDCs via water (either through recreation or consumption) is considered relatively insignificant compared to other sources such as occupational or dietary exposure.

Despite the valid reasons for concern, evidence of impacts to humans from environmental exposure to EDCs is yet to be established. This includes a lack of evidence of impacts via exposure from water supplies, food products and air. Given the observed susceptibility of other species and the ultimate importance of protecting public health, a precautionary approach towards minimising unnecessary exposure to EDCs in water, food and air is warranted.

## Consensus on future research priorities for Australia

Future research on the issue of EDCs in Australia should be focused on the following objectives:

- Identifying current impacts of EDCs on native Australian wildlife
- Minimising unnecessary discharge of EDCs to the environment
- Minimising unnecessary exposure of EDCs to humans via food, water and air
- Desk-top based modelling of EDC exposure of wildlife and humans
- Quantitative understanding of the relationship between exposure to EDCs and their effects towards understanding what levels of exposure can be considered as 'safe' in wildlife and humans
- Developing methods for monitoring EDCs in various exposure matrices
- Understanding the significance of complex mixtures and interactions of EDCs and other chemicals
- Communication to enhance understanding of the issue by a broad audience.

This Declaration represents the views of individuals who participated in the workshop and not their organisations. If you would like to add or remove your name then please contact Stuart Pearson on 02 6263 6008 or [Stuart.Pearson@lwa.gov.au](mailto:Stuart.Pearson@lwa.gov.au)

### The Founding Declaration List (2007)

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Dr Melissa Bromly	Western Australia Department of Water
Dr John Chapman	New South Wales Dept. of Environment and Climate Change
Dr Heather Coleman	University of New South Wales
Dr Simon Costanzo	Queensland EPA
Dr Ted Gardner	Queensland Department of Natural Resources & Water
Mr Bayne Geikie	ACTEWAGL
Mr Peter Goonan	South Australia Environmental Protection Agency
Prof Bent Halling Sorenson	Copenhagen University
Mr Mike Holmes	United Water International
Prof Richard Ivell	The University of Adelaide
Dr Susan Jobling	Brunel University UK
Dr Stuart Khan	University of New South Wales
Dr Rai Kookana	CSIRO Land and Water
Dr. Anu Kumar	CSIRO Land and Water
Mr Brian Lawrence	Murray-Darling Basin Commission
Dr Fred Leusch	EnTox - The University of Queensland
Dr Richard Lim	University of Technology Sydney
Ms Therese Manning	New South Wales Dept. of Environment and Climate Change
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Dr Grant Northcott	Landcare New Zealand
Dr Stuart Pearson	Land & Water Australia
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Dr Ajit Sarmah	Landcare New Zealand
Dr Nick Schofield	Sinclair Knight Merz
Dr Shane Snyder	South Nevada Water Authority
Mr Andrew Watkinson	SEQWater
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### First Enlargement (2008)

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