

Grahame Webb wins Clunies Ross Medal

GRAHAME Webb received the Clunies Ross National Science and Technology Award, March 28, 2001, for his outstanding commitment and contribution to the application of science and technology in Australia and for inspirational leadership of future scientists.

He was one of six awardees:

Ending the stress of stomach ulcers — Dr Barry Marshall, Research Professor of Microbiology, University of Western Australia, Perth.

Finding money in muck (sewage) — Mr Trevor Bridle, Technical Director, Environmental Solutions International, Perth.

Advancing the science of stopping — Mr Nui Wang, Chief Engineer; PBR International, Melbourne.

Building the technology of mathematics — Dr John Cannon, Professor of

Mathematics, University of Sydney, Sydney.

Engineering Australia's defences — Mr Gordon Kennett, Managing Director, Rosebank Engineering, Melbourne.

Including people in wildlife conservation — Dr Grahame Webb, Director, Wildlife Management International Pty Ltd, Darwin.

Grahame Webb has shown that conservation and farming can succeed side by side. His life's work with crocodiles and other reptiles has led to a new vision for wildlife conservation.

In the 1970s, even though crocodiles were endangered in the Northern Territory, the community viewed them as dangerous pests. Grahame Webb's pioneering work on crocodile conservation has not only seen the Northern Territory

population of these majestic reptiles recover to its past numbers, but also has changed community attitudes. Crocodiles are now treated as valuable wild animals that underpin tourism and crocodile meat and leather industries.

Crocodylus Park, a crocodile research and education centre in Darwin, serves as the base for Webb's global activities. His company has provided assistance to over 50 conservation management programmes around the world, helping to protect crocodiles, turtles and other species. He advises many international organizations.

Grahame Webb has demonstrated to the world that indigenous communities will readily support conservation when it is linked to a secure economic future.

Elvira Carrillo Trust

THE head of Cuba's Sea Turtle Programme, Elvira Carrillo Cardenas, died in February this year. Elvira also headed Cuba's programme on the Cuban Crocodile for many years, which is a conservation success story in its own right. Elvira was simply a remarkable and unique person, who dedicated the last decade of her life to sea turtle conservation and to the welfare of the two local Cuban communities still involved with Cuba's traditional harvest.

This was not an easy task, because the issues she was dealing with, although reasonably straightforward within Cuba, were highly controversial in the international arena of CITES. Under Elvira's leadership, an immense amount of new knowledge was gathered. Many new insights into the population dynamics of Hawksbill

Turtles were gained, the gap in knowledge about the status of Hawksbills in Cuban waters was somewhat filled, data on the sustainability of Hawksbill harvests was gathered and perhaps most important — many, many people were entertained and charmed by Elvira, which earned her great respect as an individual, even from those who disagreed with her on some issues.

For many of her close friends, the idea that Elvira is no longer with us has been and remains hard to accept. The concept of creating a conservation trust in her name, to support sea turtle research, was a suggestion warmly supported by her friends and by her husband, Coffigny. WMI agreed to do this, because we worked very closely with Elvira and her team.

We have now established a Trust her in Australia, to which people and organizations can make donations.

Details in SPANISH and ENGLISH are on:

<http://wmi.com.au/elvira-trust/>

The operations of the Trust will be totally transparent and the Board of Trustees is in the process of being expanded to include a range of well-known people who knew Elvira and were involved with sea turtle conservation and/or wildlife conservation generally. We hope that you will take this opportunity to help perpetuate the memory of a truly unique champion of sea turtle conservation.

“Environmental Roadshow”

ON May 2nd, I attended the New Scientist Environmental Road Show in Sydney. Apart from promoting *New Scientist*, the show was intended to raise awareness of the environmental issues confronting humanity in the 21st Century. The presentation began with a series of video clips of prominent environmentalists expressing concern at the failure of nations to act decisively on global environmental problems. *New Scientist* staff then presented three scenarios of the environmental future based on global warming, atmospheric pollution, and growth of the World's population followed by a panel discussion and comment from the audience. In all, an enjoyable and informative, if somewhat predictable, evening.

It was predictable because, apart from some new scientific findings, we had heard it all before. Even the audience was predictable — predominantly Caucasian, male, middle-aged, affluent, educated and environmentally concerned. Encouragingly, there were more young people, especially young women, than usual which I took to be the influence and promotion of *New Scientist* at universities. The audience was also predictable in the virtual absence of the media and politicians bar the State Shadow Minister for the Environment on the panel. In other words, the decision makers and communicators who should have been there to learn and interact were absent.

If anything, the future presented by *New Scientist* was grimmer than usual. In the first scenario, it was suggested that global warming will melt the Arctic ice cap leading to lower temperatures in northern Europe and Great Britain, but the warming of Siberia. The audience was advised to begin planning their tropical Siberian holidays, but to be careful of subsiding and collapsing buildings as the permafrost melted. The predictions that global warming will cause some places to become colder has not yet penetrated public consciousness, but is one of the more serious consequences predicted by the latest climate change models. Northern Europe will cool as the Arctic warms, because the Gulf Stream, which keeps northern Europe warm, will cease to flow as surface water in the Arctic Ocean becomes too warm to sink and set up a counter current.

The scenario based on atmospheric pollution was replete with irony, but demonstrated the complexity of interactions as human activities continue to contaminate and destabilize Earth's

atmosphere. The pollution scenario was based on the role of small molecules in the atmosphere known as “hydroxyls”. These radicals catalyse the breakdown of atmospheric pollutants and are formed by the effects of ultraviolet radiation on atmospheric water. The scenario suggested that the thinning of the ozone layer had allowed formation of hydroxyls to keep pace with the increase in the rate that pollutants were being released into the atmosphere. However, as global restrictions on the use of CFC's take effect and the ozone layer is progressively restored, less UV will penetrate into the atmosphere and fewer hydroxyls will be formed. The result, according to *New Scientist*, could be fewer hydroxyls and greater atmospheric pollution. When coupled with more motor cars and increased industrial emissions in a growing world economy, a future with the entire planet blanketed in smog comparable to that presently enjoyed by urban centres such as Mexico City, Los Angeles and Sydney is a possibility.

The third scenario focused on the problems of another 2 or 3 billion people added to the 6 billion already here. This future emphasized the difficulties that will be encountered in providing enough food as water for agriculture becomes scarcer and agricultural land is lost by erosion and urban expansion. Although providing enough food for the current population is currently a problem of distribution, this *New Scientist* scenario suggested that, in the future, it will not be possible to produce enough food to feed everyone. In the future, food production will be increasingly compromised by atmospheric pollution, global warming and changed climate patterns, as well as by increased scarcity of land, fertilizer and water.

Although presented separately, the three scenarios of *New Scientist* are really one possible future for humanity. Atmospheric pollution, the loss of biodiversity and diminished agricultural production cannot be separated from population growth and increased resource consumption. Society and the environment are part of a single ecosystem — as I am constantly reminding students in first year ecology — but this is not easy for most people to understand.

No one says that an environmentally bleak future as is contained in the *New Scientist* scenarios is inevitable. There is uncertainty over the magnitude and rate of changes in global climate. The role of hydroxyls in limiting atmospheric pollution is unproven. The rate of

number of people that will need to be fed in 20, 50 or 100 years is dependent on a complex set of environmental, social and economic factors. Even the rate and magnitude of loss of global biodiversity is more a subject of speculation and debate than fact. However, it is certain that the world will be a very different place in 2050 and the ability of scientific and technological innovation to compensate for environmental change or provide adequate food, water and shelter for a larger population is as uncertain as the extent of environmental change.

Using the best available science, the New Scientist Environmental Roadshow made it clear that there is a significant risk that the magnitude of global environmental changes will exceed the capacity of human ingenuity to adapt and that the changes in the world's environment which are now unfolding will lead to untold human misery and loss of biodiversity.

The risk is great enough and the consequences so unpleasant that we need to ask why nations resist taking even limited action to mitigate the consequences of global environmental change. Partly, the reason for inaction is due to the long time spans in which change will occur. Fifty years may not be long in the life of a person, but it is an order of magnitude greater than the length of time most governments are elected to serve. Governments and human social systems simply do not plan for long-term change. Instead, they react to immediate events, a response pattern that is totally inappropriate for dealing with global environmental problems. When combined with the economic and social costs of limiting or re-directing everything from population growth and dispersal to industrial development and energy production, it is not surprising that governments fail to act or that the media's coverage of environmental problems is limited.

Even when allowance is made for the problems governments and the media have in responding to long-term change, as opposed to immediate crisis, it is puzzling why more attention is not paid to issues like global climate change given the predicted effects on agriculture, economic development and the quality of human life. For more than 40 years the scientific community has been outspoken about the impact of human population growth and resource consumption on world environments and human society, but in 2000 America elected a President whose policies will increase America's greenhouse gas emissions and withdraw the United States from participation in the Kyoto Treaty to limit greenhouse gas emissions. His justification for these policies was that it is not in America's economic interests and he was not convinced there is a problem. Australia is little better with a government that

promotes logging national parks and which takes no action on Australia's high rates of land clearing, a major source of Australia's high *per capita* greenhouse gas emissions. Australia's politicians are also unconvinced that the world faces an environmental crisis or that human ingenuity will not cope.

Politicians are not convinced because the scientific community does not agree unanimously on the causes of global environmental change, nor on the rate and magnitude of change and the likely effects on the environment and human welfare. So long as politicians can cite a scientific source which contends the problem is unproven or that more data are required, the softest options will be taken. The Minister responsible for forestry in Australia justifies logging of parks by citing sources with scientific credentials in forestry and botany who argue that forests must be disturbed to maintain a healthy age structure. For the same reasons, it is easy for the media and the wider community to ignore the world's environmental problems as of no immediate concern. It is easy to draw a parallel with the debate about the effects of smoking on human health. For too long the medical profession which opposed smoking on health grounds was forced to argue against scientists who contended the link between smoking and disease was unproven. How many people died needlessly because of that debate?

I do not advocate that all scientists must agree on the scale of global environmental problems. Nor would I advocate that dissenters from either side of the debate be silenced. The debate is healthy for all of us, regardless of the added risk it poses to the planet and our grandchildren. However, we need to hear more often from the scientists who are convinced there are global risks to long-term environmental and climate change. Australia's salinity problems finally show signs of being taken seriously by farmers, politicians and the media for the simple reason that more scientists than usual have been prominent in their public expressions of concern.

Protecting the environment takes courage and commitment. The New Scientist Environmental Roadshow was evidence that some scientists are trying. It also demonstrated that there is a long way to go before an evening about the environment needs the football stadium to seat the audience and ringside is filled by politicians and the media.

Harry F. Recher