9 Environmental and resource constraints: myth or reality?

Don Henry
Australian Conservation Foundation

The Australian Bureau of Statistics does a fine job with the *Measures of Australia's Progress* dashboard (ABS 2010), which looks at key economic, social and environmental indicators that it views as important to our nation's wellbeing. The latest iteration reveals that biodiversity has continued to decline in Australia over the past 10 years.

The headline indicators of land condition are poorly developed for Australia. However, supplementary indicators such as land clearance show that we continue to lose, in gross area, our areas of forest and woodlands, and we continue to see an increase in soil degradation factors, such as salinity.

Australians have reduced their per-person water consumption. One could argue that the drought had a sobering effect on our thinking about the use of water and perhaps bedded into the Australian ethos that this is a limited resource, more so than before. However, in southern Australia we are still seeing continued degradation over time in the quality, quantity and health of river ecosystems.

If we look at our oceans and estuaries, our proportion of fish stocks that are overfished has increased in the past 10 years from 10 per cent to 18 per cent. There was a peak of 29 per cent overfishing in 2005. On the other hand, our areas of marine parks — our protected areas in Australia's waters — increased by 58 per cent over that period.

Greenhouse emissions have increased by 16 per cent in the decade to 2008. Waste, in Australia, has doubled in volume over the past 10 years and has also doubled per person during that time.

These are some big snapshots. The measures are not as clear and well bedded as they should be, but many of the trends are down, and that coincides with what we have consistently seen from 'state of the environment' reports in Australia at the federal and state levels over the past 20 years.

There are some indicators or measures that are showing improvement. Usually these are policy instruments that are aimed at affecting the overall measure, but haven't yet reached the scale or effectiveness required to turn around deterioration. For instance, there has been an increase in marine-protected areas, but a decrease in the overall indicator (in this case, fish stocks).

The term 'ecological footprint' has come into use over the past 10 years. It is a summary measure of impacts on the environment measured against the carrying capacity of the planet. This is an attempt to assess how we are travelling with the capacity of Australia and the globe to deliver what we gain from healthy ecosystems — food, clean air, clean water — and their constraints.

The Victorian Environment Protection Authority (EPA) estimated in 2008 that Australia's ecological footprint was the equivalent of 7.8 global hectares per person, whereas the planet can regenerate 2.1 global hectares per person on an annual basis. On this measure, our footprint per person in Australia is much heavier than a global estimate of what the constraint is from our ecological systems. It is 2.8 times the average global footprint, and well beyond the level the planet can regenerate in a year. The EPA noted that, in the formulas it used, half of that impact was from carbon dioxide emissions in Australia. We have a very heavy carbon dioxide emissions footprint per person.

These are not just environmental issues — they have real and abiding, and increasing, social impact. For instance, the impact of more extreme weather events, where they fit probabilities from climate change or where they may increase over time, is very real. The economic impacts are very real. For instance, the degradation of the Murray–Darling Basin has very real economic impacts for the nation, and for regional communities and regional towns.

In 2008, Graham Turner of the CSIRO looked at 'Limits to Growth'. That was the 1972 Club of Rome publication that many saw as 'doomsday', as ringing a bell that there were very severe limits to growth. It was criticised at the time as being unrealistic. Turner went back and matched 30 years of historical data against the business-as-usual scenario in the 1972 study.

His analysis showed that 30 years of historical data matched with key features of a business-as-usual scenario called the 'standard run' scenario, which results in collapse of the global system midway through the 21st century (Turner 2008)

This is a controversial but thoughtful analysis that speaks bluntly of the limits to growth. There are real biophysical and physical constraints on our species.

A well-informed conversation needs to recognise that this is not just a debate about population numbers. It is a debate about population numbers, consumption rates and technologies used in consumption — the three factors that, at the end of the day, are our impact on the environment.

One other point: what people value changes constraints or perceived constraints over time. A former oil minister from Saudi Arabia, over a decade ago, observed that the Stone Age didn't end because of a shortage of stones! There are real debates about peak oil. I think they partly miss the point. I would argue that we are either at or past peak pollution of our atmosphere right now. At the recent UNFCCC Cancun climate negotiations, in December 2010, governments of the world agreed that we need to keep global warming below an average warming of two degrees. This included China and the United States, as well as Australia. That equates to something in the order of keeping CO_2 equivalents in the atmosphere below 450 parts per million. We are knocking on that door now, reaching about 380 straight CO_2 ppm, and very close to 450 ppm CO_2 equivalent.

At the Cancun meeting, governments also acknowledged there needs to be a review of that target in four years' time, and the review would need to look at the proposition that we should keep warming below 1.5 degrees Celsius because there are many severe impacts that kick in even just below 2 degrees. (For example, the future of a healthy Great Barrier Reef is highly problematic under the 2 degree warming scenario.) We are past that point right now, past that constraint that would permit holding warming to 1.5 degrees.

To summarise, our values change over time, and we make decisions, involving constraints, on values that are important. There may be no better example of that at the moment than climate decision-making at national and international levels.

What can we do about this in the context of a policy discussion on sustainable population? Population is important, but consumption and technology are, too. Should we be looking at national sustainability indicators or, further, should we be ensuring that our national accounts fully incorporate environment and social measures? Should we be looking for improved tools of analysis and decision-making to enable us to understand these constraints and make decisions informed by them?

A number of countries use sustainability impact assessments, which bring together economic, social and environmental analysis. Common tools used now include better internalisation of environmental and social costs. These tools or methods are coming into use by mainstream treasury agencies. The United Kingdom is a good leader in this area, with quite progressive cost–benefit analysis tools that bring to

bear social and environmental factors very clearly. We are examining these issues here in Australia, and some progress has been made in Treasury and other agencies.

How do we invest in sustainability infrastructure? We do not repair a degraded Murray–Darling river system by leaving it to itself. Most discussion of infrastructure focuses on concrete and bitumen. However, there is also the infrastructure of healthy ecosystems. We have to start thinking about the 'wet and green stuff'. Having enough water in the Murray–Darling river system, it could be argued, is investing in sustainability infrastructure that has benefits for the environment, for communities and for the economy.

We can significantly reduce the environmental impact that we have on this continent. There are some encouraging trends. The dramatic reductions in per-person water use in Australia are one example. But, in the view of the Australian Conservation Foundation, that is not enough. We also have to speak about numbers, and the Foundation's view is that we should be stabilising Australia's population by 2050. This does imply growth over the next 20 years; it does maintain modest immigration rates, but not excessive ones. The issue of numbers is there: it needs to be on the table, but it needs to sit on the table beside consumption and beside technology.

References

ABS (Australian Bureau of Statistics) 2010, *Measures of Australia's Progress, 2010*, cat. no. 1370.0, Canberra, September.

Turner, G. 2008, 'A comparison of the limits to growth with thirty years of reality', *Socio-Economics and Environment in Discussion*, CSIRO Working paper series, Canberra, June, www.csiro.au/files/files/plje.pdf (accessed 5 May 2011).