

Accounting for Nature

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How is it that the world was able to mobilise with such speed and precision to confront the global credit crisis.

How did we even know we were having a financial crisis? The trains are still running, the shops are full of food, the factories are still open.

Sophisticated and detailed economic accounting, developed over the last 50 years, allows us to monitor the health of and changes in our economy with incredible precision.

So why then didn't the world move with similar speed and precision when the most comprehensive assessment of the health of the world's ecosystems ever undertaken concluded that *"Over the past 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history. This has resulted in a substantial and largely irreversible loss in the diversity of life on Earth"*?

The Millennium Assessment was ignored because whilst it provided an expert assessment of the state of our environment, it did not provide any institutional means by which the world could react to these challenges.

When it comes to environmental accounting we are still in the dark ages.

If we are to have any hope of managing the great environmental challenges of the 21st century, we are going to have to apply the same discipline to environmental management that we apply to managing our economy.

We need to build a system of national environmental accounts. If you can't measure it, you can't manage it.

Our current political systems were built to manage the industrial revolution where the great contest of the age was between capital and labour.

Our Westminster system reflects this contest – two major parties fighting for political ascendancy – one from the right defending capital – the other from the left fighting a social revolution.

Both won.

The industrial revolution was built on the harnessing of fossil fuels – the energy embedded in the vast oil, gas and coal reserves that were laid down millions of years ago, when the earth was a very different place.

It has given us health care, aged pensions, fast cars, shops full of food, schools, 4 weeks annual leave, sick leave, television, the internet, coffee shops, the list goes on and on.

We have become as a civilisation highly skilled in economic management, highly skilled in the social sciences – education, health, law and order. These were, and still are, some of the defining issues of our age.

And therein lies our problem.

The world laughed at the Club of Rome² when they warned that the industrial revolution would send many of our natural systems to the point of collapse and never in our wildest dreams did we imagine that the very machines that created all this wealth could change the world's climate system, within our own lifetimes.

The Millennium Assessment was ignored because the link between future prosperity and functioning natural systems remains an abstract concept, unreconciled with everyday living.

In Australia we face the same challenges with our State of the Environment reporting: sound advice is provided by experts on the condition of our environment, but the information on which they are based is not fit for purpose to guide policy or invest in actions at the scales required to address the problems.

This lack of an environmental accounting framework has been a fundamental weakness of Australian environment policy. It is one of the great failures of public policy of our generation and is at the core of our environmental problems.

It has resulted in policy and land use decisions that have caused significant and unnecessary damage to our natural environment, and it has resulted in the massive waste of billions of dollars of public funds aimed at repairing this damage.

The Australian Bureau of Statistics has undertaken a certain degree of natural resources accounting. Water, energy, salinity, mineral and fish reports have been produced at varying intervals with an environmental-economic accounting approach, a satellite framework of the System of National Accounts^{3,4}, but they too have encountered the same problems that have plagued the Millennium Assessment and our State of the Environment Reports⁵:

1. *"There is no definitive set of indicators that encapsulate progress in the environmental domain"* and
2. *"Data gaps and data inconsistency present problems in many areas of environment analysis"*.⁶

When you talk to the authors of the Sustainable Rivers Audit of the Murray-Darling Basin which was released a couple of months back, you come to appreciate just what an institutional catastrophe we have in standard setting and quality assurance in environmental accounting in Australia.

We are now aware that our future prosperity is linked to effective stewardship of nature: our land and water, a stable climate, clean air, healthy coasts, and marine resources. We now know that without stable functioning natural systems, our economic prosperity is transient and intergenerational financial security is a mirage.

The great challenge of our age is not wealth creation – certainly not in the western economies – the great challenge of our age is climate change, global food security, the growing scarcity of fresh water resources, and the catastrophic loss of the world's biodiversity.

To paraphrase Ross Garnaut: *"On the balance of probabilities, the failure of our generation (on climate change mitigation) would lead to consequences that would haunt humanity until the end of time."*⁷

Our problem is that our political institutions are designed to manage economic growth and distribute wealth. They are simply not designed to manage the economics of nature.

It is very simple: if you can't measure it, you can't manage it.

If you can't use environmental accounts to guide decision-making and investments, and assess the relative effectiveness of management scenarios, then environmental accounting becomes purely academic, just another record keeping procedure.

Which is why the \$5 billion Commonwealth program attempting to redress the *"radically altered and degraded Australian landscape"*, highlighted in the 1996, 2001 and 2006 State of the Environment Reports received a damning condemnation from the Commonwealth Auditor General. He said that they could not make an informed judgement as to the progress of the programs towards either long term or even intermediate outcomes. That is a national scandal.

The good news is that, in Australia at least, this may be about to change.

We have just heard from Malcolm Thompson that a significant initiative for long term institutional reform coming from this year's Prime Minister's 2020 Summit was to *'implement a set of national environmental accounts, including carbon and water accounts, to inform government, business and community decision-making'*.

Earlier this year, the Wentworth Group of Concerned Scientists sought to make a contribution to this reform, when we put forward an institutional model for building the National Environmental Accounts of Australia.

This blueprint, *Accounting for Nature*, proposes a regionally based, standardised model, to monitor and track the health and change in condition of Australia's major environmental assets.

Why regional? Because active management requires accurate data at a scale that is fit for purpose. Each region is unique and needs to be managed in a holistic manner to cater for its specific landscapes and landscape processes, land use profile and environmental assets.

The proposed National Environmental Accounts of Australia in our *Accounting for Nature* model are essentially biophysical accounts that sit alongside the economic and social accounts. They would build on and correct the data gaps that have plagued the State of the Environment reporting process.

Environmental accounting is complex and expensive, which is why it is essential they are in a form that can both inform policy and guide future public and private investments at a local, catchment, state-wide and national scale, across the Australian landscape. The model we have developed allows the same accounts and the data systems that lie beneath them would serve at least three, if not more, functions.

1. Firstly, they provide annual national, state/territory-wide and regional (catchment) scale reports which measure the health and change in condition of our major environmental assets;

Report cards offer Australia a clear picture of how their regions are changing. This has been successfully used for 10 years in south-east Queensland by the Healthy Waterways Partnership⁸.
2. Secondly, because they are data based and geographically specific, they can underpin the long-term catchment management and land use planning decisions by Commonwealth, state/territory and local governments, and regional authorities; and
3. Thirdly, scaling is achieved by using metrics and as such, these environmental accounts can readily be used to improve the cost effectiveness of public and private investments in environmental management and repair.

The National Environmental Accounts we have proposed are built on ten design principles⁹.

Let me briefly mention four:

1. The core to our model is a regional data collection and reporting framework that measures the 'health' of five environmental assets, and publishes an annual report on any change in their condition, in each region.

The regional reports are then scaled up to produce the national report.

We are not particularly wedded to the actual structure, but offer as a starting point five asset classes:

1. Land (native vegetation, native fauna, soils);
 2. Water (rivers, wetlands and estuaries);
 3. Atmosphere (greenhouse emissions which cause climate change);
 4. Marine and coastal resources (fish stocks, reefs, beaches); and
 5. Towns and cities (air quality, waste, water use, consumption).
2. Another principle is that National Environmental Accounts must be based on scientific measurements of specific indicators to measure the health and change in condition of each asset in each region and the threats to those assets.

This and the regional structure will have significant resourcing issues, which we believe can largely be dealt with through co-ordinating, streamlining and prioritising existing local, state and Commonwealth resources.

3. This one is very important: The indicators used for evaluating the health of each asset class, and the frequency of data collection, may vary from region to region and from indicator to indicator, but within nationally accredited accounting standards.
4. And finally, for one that is certain to please some people more than others: Commonwealth funding of all environmental programs (to Commonwealth, state/territory, regional and local government agencies) should be tied to the supply of any required data to a standard consistent with the data accreditation standards.

It simply won't happen otherwise, there are too many vested interests in existing agencies and too much institutional inertia.

This *Accounting for Nature*¹⁰ framework will change the way we manage Australia: the design of our cities, how and where we produce our food and fibre, and how we direct public and private investments as we strive to improve and maintain the health of our environmental assets.

Its successful implementation will require leadership from the Commonwealth government in establishing the accounting framework, setting the standards for data collection, negotiating intergovernmental agreements and auditing the assembly and reporting of the information.

State governments too will be major beneficiaries of a robust environmental accounting framework, and should therefore be enthusiastic contributors to these reforms, by allocating resources to provide the institutional support for regional (catchment management) authorities to undertake data gathering and reporting programs.

What is essential now is not another committee to negotiate yet another so-called intergovernmental agreement to another new process. That is a guaranteed recipe for failure.

Just as our economic accounts were built with what they had available in 1942 and then improved over time, so too must we. We need to agree to a common structure and reporting framework and get on and start the process.

We need to get the first report cards out, and then build on the process over time.

In conclusion, let me return to my analogy with the economic accounts.

Today, we wouldn't dream of managing the economy without rigorous accounting standards for our personal accounts, for business dealings and for managing the national economy.

Environmental accounts are fundamental to successfully dealing with the 21st century challenges of stabilising the world's climate systems and managing nature.

Every good business keeps track of its assets. National Environmental Accounts should be core business of government in the 21st century.

Thank you.

Notes and References

- ¹ Millennium Ecosystem Assessment, 2005. *Ecosystems and Human Well-being: Synthesis*. Island Press, Washington, DC.
- ² Club of Rome, 1972. *Limits to Growth*. A Report to The Club of Rome
- ³ Australian Bureau of Statistics, 2008. *Information Paper: What are Environmental Accounts?* Canberra.
- ⁴ Australian Bureau of Statistics, 2006. *Australian System of National Accounts, 2005-6. Reissue*. Canberra.
- ⁵ Department of the Environment, Sport and Territories, 1994. *State of the Environment Reporting: Framework for Australia*. Canberra.
- ⁶ Australian Bureau of Statistics, 2008. *Australia's Environment: Issues and Trends, 2007*.
- ⁷ Garnaut Review, 2008. *The Garnaut Climate Change Review* Final Report September 2008, p xiv
- ⁸ South East Queensland Healthy Waterways Partnership, 2006. *Annual Report 2006-7*. Brisbane, Australia.
- ⁹ Ten Design principles for the National Environmental Accounts of Australia from *Accounting for Nature*:
1. National Environmental Accounts need to be based on a regional data collection and reporting framework.
 2. This regional data collection and reporting would measure the 'health' of five environmental assets, and publish an annual report on any change in their condition in each region:
 - Land (native vegetation, native fauna, soils);
 - Water (rivers, wetlands and estuaries);
 - Atmosphere (greenhouse emissions which cause climate change);
 - Marine and coastal resources (fish stocks, reefs, beaches); and
 - Towns and cities (air quality, waste, water use, consumption).
 3. National Environmental Accounts should be produced annually, as an aggregation of the regional (catchment) accounts, using an agreed common scaling standard.
 4. National Environmental Accounts must be based on scientific measurements of specific indicators to measure the health and change in condition of each asset in each region and the threats to those assets.
 5. Data collection will need to be coordinated at a regional scale and delivered 'fit for purpose' within a cooperative, but tightly specified national framework, acquired from a range of existing and new national, state/territory and local sources, as appropriate.³
 6. And this one is very important: The indicators used for evaluating the health of each asset class, and the frequency of data collection, may vary from region to region and from indicator to indicator, but within nationally accredited accounting standards.
 7. An independent, expert based National Environmental Accounts Advisory Council, chaired by Australia's Chief Scientist should be created to establish these accounting standards, accredit and monitor the regional reporting process, and publish the annual national report.
 8. National Environment Accounting Standards should set out the criteria for the selection of indicators most relevant to each region, and define the method for determining a common single rating standard for what is considered 'healthy' for each asset type in each region.
 9. The Australian Bureau of Statistics should be responsible for the management of the underlying data bases that make up the environmental accounts and the public release of the raw data as it is collected.
 10. Commonwealth funding of all environmental programs (to Commonwealth, state/territory, regional and local government agencies) should be tied to the supply of any required data to a standard consistent with the data accreditation standards.
- ¹⁰ Wentworth Group of Concerned Scientists, 2008. *Accounting for Nature: A Model for building the National Environmental Accounts of Australia*. April 2008.