

## Australian Bureau of Statistics ecosystem accounting update

### **Foundations**

Three main pillars have allowed the ABS to start experimental ecosystem accounting.

Sustained experience in SEEA central framework accounting have been invaluable. The availability of a pool of staff to both work directly on ecosystem accounts, and to give advice as necessary has meant a faster start up than would otherwise have been possible.

A suite of national accounts including input-output tables and supply-use tables, and the expertise to interrogate and apply data from these has been integral to the valuation of ecosystem services at large scales.

International experience gained through working on ecosystem accounting projects with field experts has enabled fast-tracking of specific experience, providing exposure to many stages of the accounting and policy cycle faster than would have been possible domestically.

### **Work to date**

The ABS released an experimental ecosystem account for the Great Barrier Reef region in early 2015. Data was presented for various time periods, but most years between 2000/01 and 2011/12 were represented for most measures. Dynamic Land Cover, a Geoscience Australia product, was used as the land cover ecosystem functional unit, while one stock estimation of marine was gathered from the Great Barrier Reef Marine Park Authority. Outputs were presented for six Natural Resource Management regions (corresponding to river catchments) as well as total terrestrial and marine domains.

Condition measures varied significantly in their complexity and representativeness of asset, with the marine measures being composite indicators for each of seagrass, coral and water, and the terrestrial measure being a simple Net Primary Productivity indicator of vegetation condition. Both measures were accessed from existing data sources.

Biodiversity tables were produced based on IUCN threat status, and threat type, both for terrestrial and marine areas.

Ecosystem services were presented, as far as possible, in accordance with the CICES V4.3. Services included provisioning of nutrition and materials, experiential use of land and seascapes, and buffering and attenuation of mass flows. Physical measures were reported for each, and were accompanied by valuation where possible. A resource rent approach was utilised for all values, with data being broken down state and national level estimates rather than additional, direct collection in the area of interest.

Indigenous cultural services were discussed in qualitative form as recognition of their presence and to underline that the accounts present only a selection of measures.

## **Lessons**

Our experience has shown that there are certain strengths of NSOs in ecosystem accounting, but these need to be supplemented with strong engagement across technical and managerial levels with scientific and policy communities. Specifically, ecosystem accounting, especially on a large scale, is seen to have the most potential when macroeconomic and environmental-economic data from an NSO is married with environmental condition and spatial measures from the scientific community.

We are engaged in two main areas to realise the potential of this collaboration and combination of data.

The first is to continue to familiarise all parties with the requirements of measures for accounting, the importance of having agreed upon -if not always perfect- indicators. We've found a good amount of recognition of this, but still have plenty of work to do. This work is seen as fundamental to the future availability of consistent data to inform accounts at most scales.

The second is to produce more detailed, small area economic estimates which would better represent the effect of local conditions and characteristics on the flow of ecosystem services.

## **Planned work**

To date, we, perhaps like many others in the field, are straddling the line between demonstrating the relatively new ecosystem accounting framework and building policy focussed accounts from the ground up.

In the coming year we will endeavour to produce accounts that are policy and use focussed, as we have shown that the accounting framework can be applied. In this, we are looking to produce state-based accounts in collaboration with state environment departments, and also industry specific accounts with specific policy questions front and centre.