

# Experimental Ecosystem Accounts for the Central Highlands

## Briefing note – 17 June 2016

Researchers from the Fenner School at the Australian National University have produced a set of experimental ecosystem accounts for the Central Highlands of Victoria for discussion. The study area covers a region where extensions to the national park system are being sought via “The Great Forest National Park” and is also relevant to the investigations of the Victorian Forest Industry Taskforce and the Regional Forest Agreement process.

Available information has been transformed into a suite of accounts using the international framework, the System of Environmental-Economic Accounting (SEEA). The accounts provide biophysical and economic information on ecosystems, land, water, timber, carbon and biodiversity as well as the forestry, water supply, agriculture and tourism industries.

A key benefit of the account compilation process was the drawing together of multiple information sources to provide a comprehensive picture of the region and its uses. The data sources and methods used have limitations and can be improved.

The results provide an indication of the state and changes in the physical environment of the Central Highlands and the benefits derived from it. The main findings from the report are:

- Total area of forest is mostly stable but the condition of the forest, as measured by age-class, is declining. There were significant losses of older forest age-classes in recent years due to logging and fire between 1990 and 2015 (especially due to the 2009 fires).
- In 2013-14, the most valuable industries in the region were tourism (\$260 million), agriculture (\$257 million), water supply (\$233 million) and forestry (\$9 million). This is as measured by the estimated industry value added (the contribution to GDP).
- In 2013-14, the most valuable ecosystem services in the region were food provisioning (\$121 million), water provisioning (\$101 million), cultural and recreation services (\$42 million).
- At a carbon price of \$12.25 per ton (the average price paid by the Commonwealth in the 2<sup>nd</sup> Auction of the Emissions Reduction Fund, concluded in 2015), in 2013-14 the potential ecosystem service of carbon sequestration (\$20 million) was more valuable than the service of timber provisioning (\$15 million).
- The number of threatened species under the EPBC Act (as recorded by the Department of the Environment) increased from 28 in 2000 to 38 in 2015.

The main implications from the report are that:

- The benefits from tourism, agriculture, and water supply are large, while those from forestry are comparatively small. There is a potential for income from carbon sequestration.
- The activities of tourism, agricultural and water supply industries are complimentary and may be combined with biodiversity conservation and carbon sequestration.
- Timber harvesting in native forests needs to better account for the occurrence of fires.

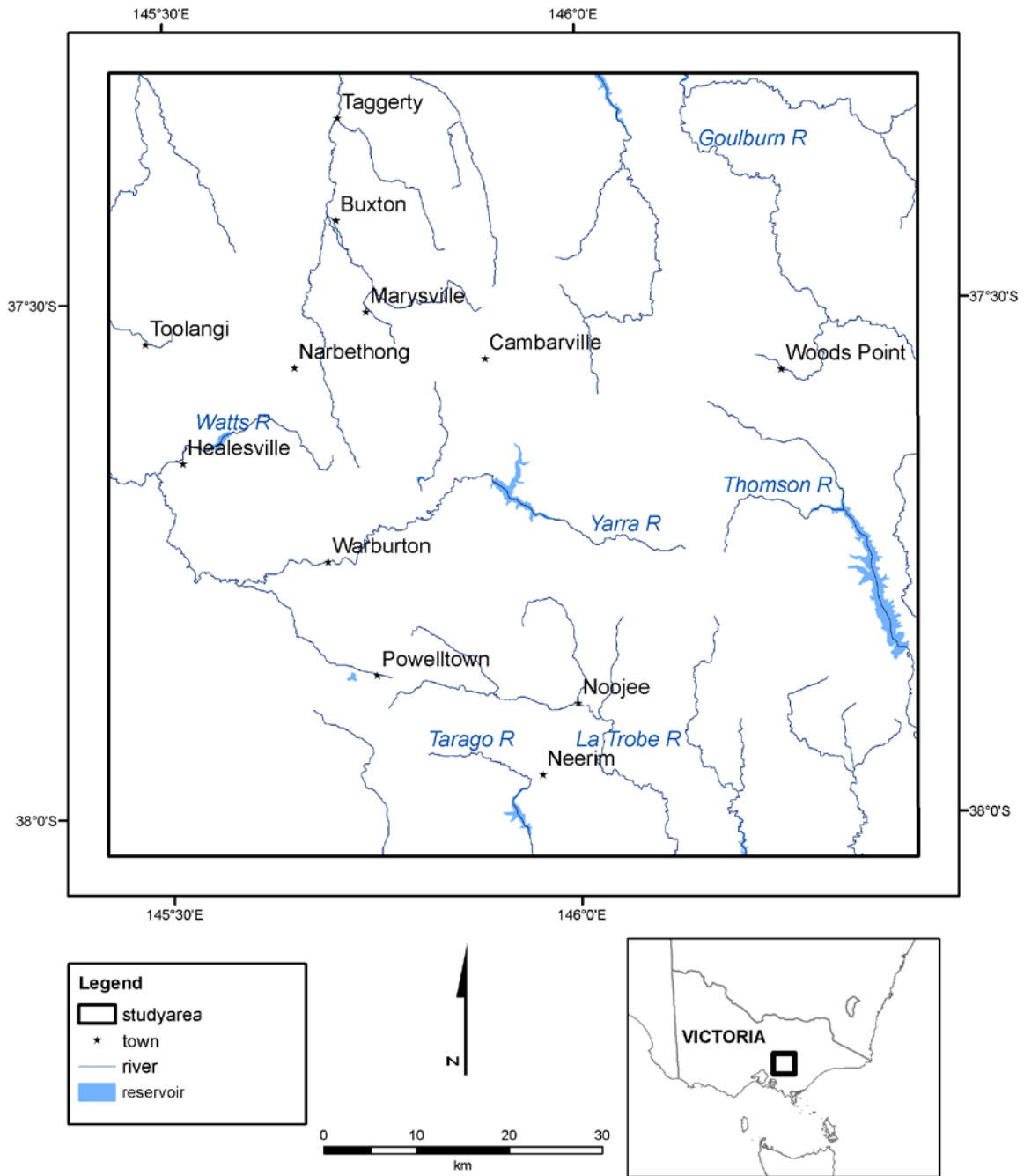
Going forward:

- The report shows that ecosystems accounts can be prepared at a regional level, using available data source and methods.
- The data sources and methods can be improved and ANU wants to work with others to do this for the Central Highlands and other areas of Australia.

The summary document for discussion can be found at: [http://fennerschool-associated.anu.edu.au/documents/CLE/VCH\\_Accounts\\_Summary\\_FINAL\\_for\\_pdf\\_distribution.pdf](http://fennerschool-associated.anu.edu.au/documents/CLE/VCH_Accounts_Summary_FINAL_for_pdf_distribution.pdf)

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Figure 1. Map of Central Highlands study area



**Table 5. Economic information for industries within the study region in 2013-14**

	Industries			
	Agriculture	Native Forestry	Water supply	Tourism
<b>Area of land use (ha)</b>	96,041 <sup>a</sup>	324,380 <sup>b</sup>	115,149 <sup>c</sup>	737,072 <sup>d</sup>
<b>Sale of products (\$m)</b>	474	49	911	485
<b>Industry valued added (\$m)</b>	257	9	233	260
<b>Ecosystem service (\$m)</b>	121	15	101	42
<b>Sale of products (\$ ha<sup>-1</sup>)</b>	4918	151	7911	659
<b>Industry value added (\$ ha<sup>-1</sup>)</b>	2667	29	2023	353
<b>Ecosystem services (\$ ha<sup>-1</sup>)</b>	1255	46	877	57

<sup>a</sup> area of agricultural land use

<sup>b</sup> area of native forest timber production

<sup>c</sup> area of water catchments

<sup>d</sup> total area of study region

**Figure 4. Value of ecosystem services generated in the Central Highlands**

