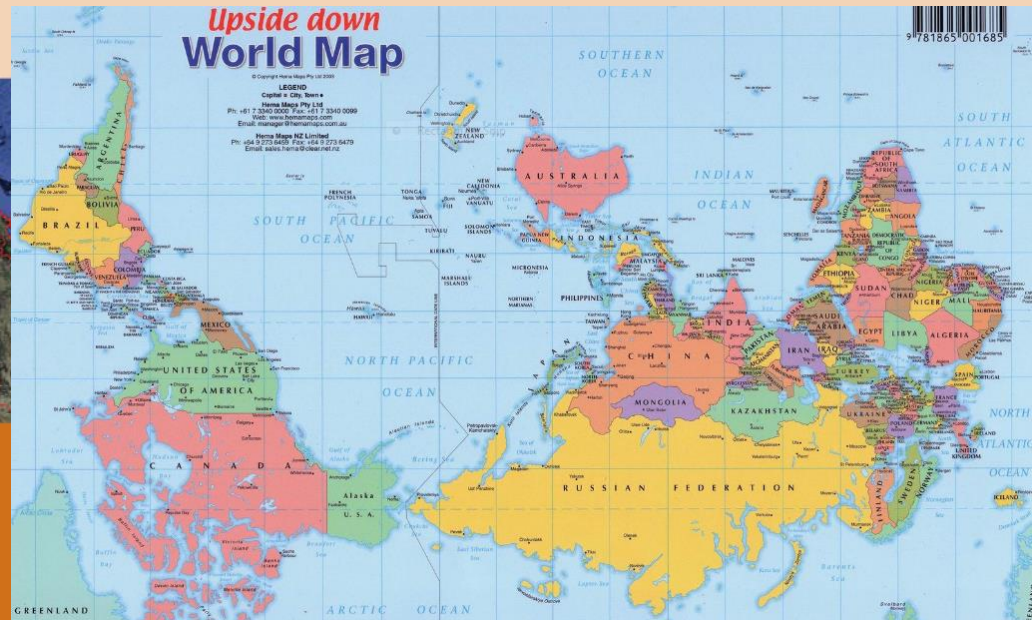


Land and Ecosystem Accounting in Australia



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Expert Group Meeting on Ecosystem Accounting
European Environment Agency
Copenhagen, Denmark

Outline of presentation

- *Background to recent Australian Government interest in environmental accounting*
- *ABS work on environmental-economic accounting and the application of the System of Environmental Economic Accounting (SEEA) to land and water*
- *How ecosystem accounting is being advanced in Australia by a range of people*



Acknowledgements

- Gary Stoneham and Mark Eingeraam (Victorian Government)
- Jane McDonald (Wentworth Group/Queensland University)
- Warwick McDonald and Andre Zerger (Bureau of Meteorology)
- Phil Gibbons, David Lindenmayer, Judith Adjani and Brendan Mackay (Australian National University)
- Paul Lawrance (Queensland Government)
- Peter Greig (Chair NRM environmental accounting technical committee)
- Mark Lound, Valdis Juskevics, Andrew Cadogan-Cowper, Peter Comisari, David Skutenko (ABS)



2009 Review of the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

Also known as the Hawke Review.

*Chapter 19 is devoted to national
environmental accounts*

Available on line:

<http://www.environment.gov.au/epbc/review/index.html>



Recommendation 67 (1) of the EPBC Act Review

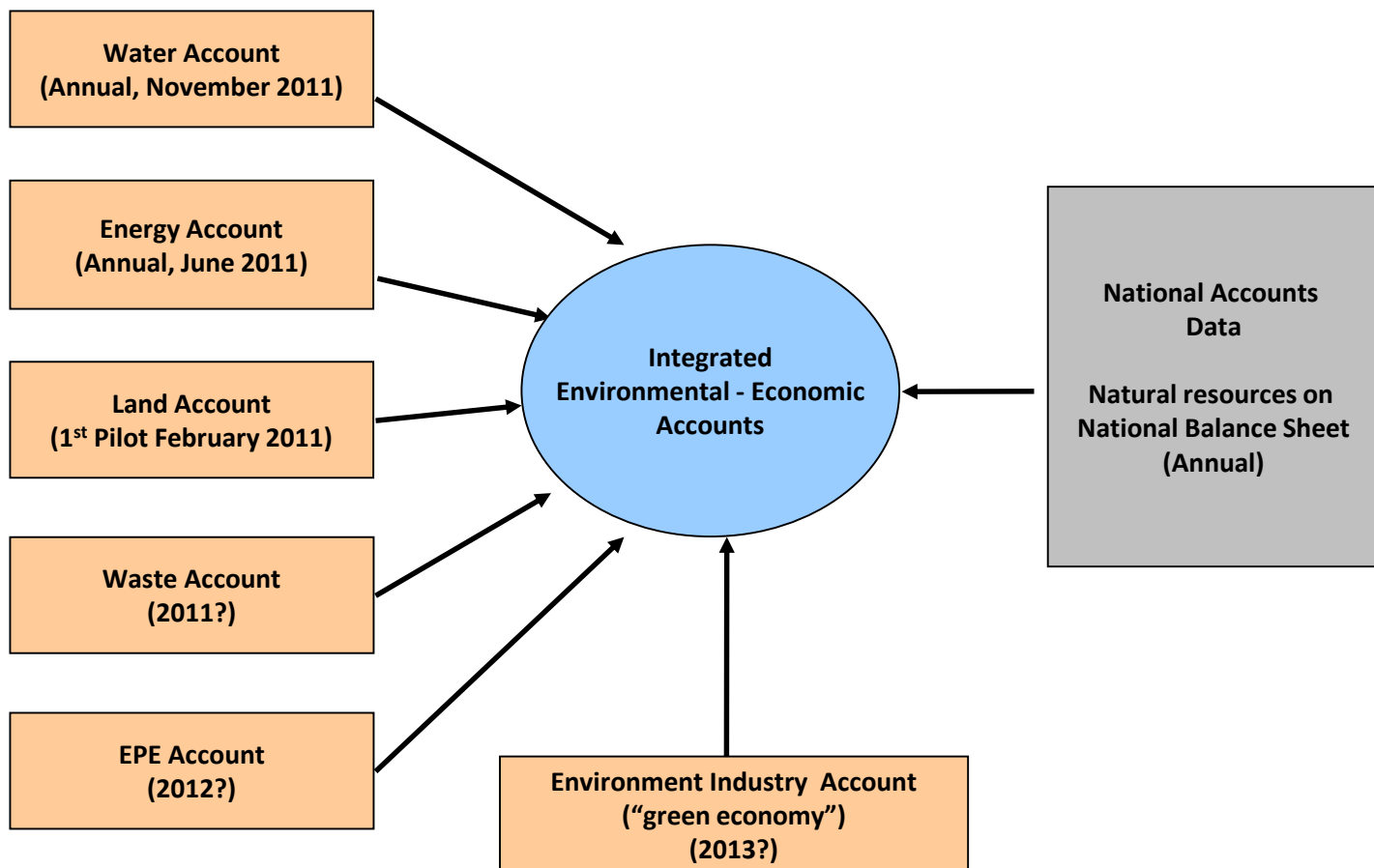
The Review recommends that the Australian Government, in the interests of promoting ecologically sustainable development, develop a system of environmental accounts to:

- (a) establish baseline national environmental information;*
- (b) provide capacity to systematically monitor changes in the quality of the Australian environment;*
- (c) provide an information basis for improved regional planning and decision-making; and*
- (d) provide a secondary objective of strengthening the capacity of local government land-use planning decision-making.*



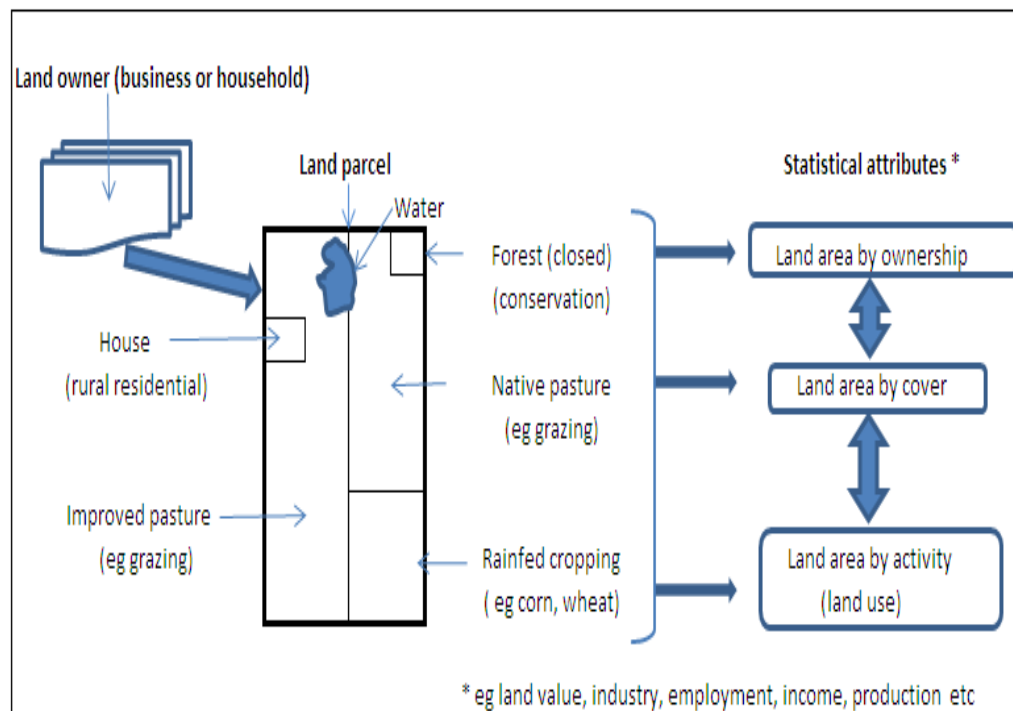
Current ABS Plan for Integrated Environmental-Economic Accounts

<http://www.abs.gov.au/ausstats/abs@.nsf/mf/4655.0.55.001>



Land as an asset

- Land has economic and non-economic values
- Nearly all economic activities involve the use of some land
- Land is a complex asset



Land value in Australia

- Total land value at 30 June 2010 was AUD\$2,749 billion, up slightly from AUD\$2,722 billion at 30 June 2009
- Rural land accounted for AUD\$330 billion or ~12% of total land value
- At 30 June 2010 land represented 31% of all of total assets (= AUD\$8,791 billion)
- At 30 June 2010 land represented 80% of all of natural resource assets (=AUD\$3,397 billion)

From the Australia System of National Accounts

All values are in current prices

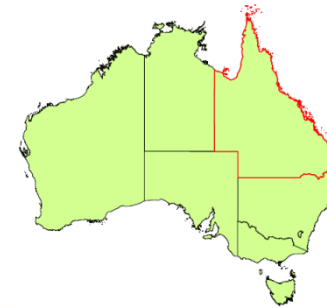
At 10 March AUD\$ = 1.08 USD\$

Billion = 1,000,000,000 or 10^9



Pilot Land Account for the Great Barrier Reef Catchments

<http://www.abs.gov.au/ausstats/abs@.nsf/mf/4609.0.55.001>



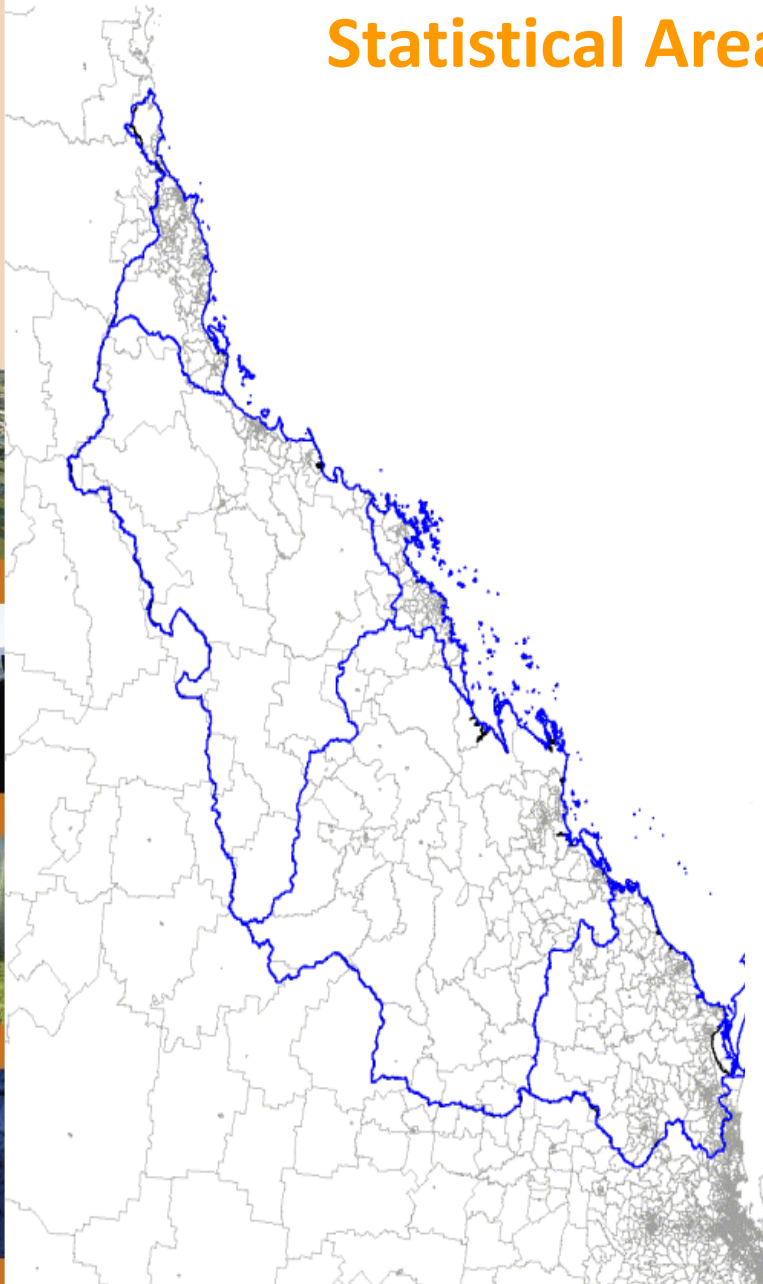
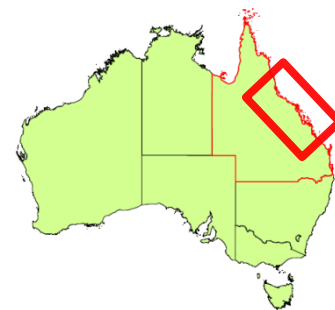
Land account integrated:

- Environmental data
- Economic data
- Social data

Data was spatial explicit



Great Barrier Reef Statistical Area 1 regions



Survey forms included maps of individual land parcels

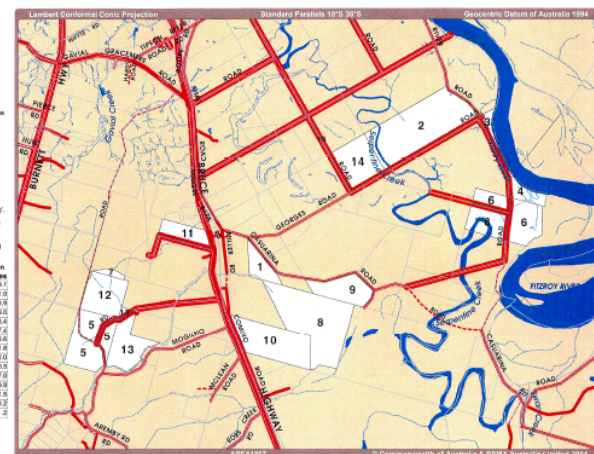


Based on or contains data provided by the Department of Natural Resources and Forestry in relation to the data (including boundary, existing construction or authority) and accepts no liability, including without limitation, liability or responsibility for any loss, damage or costs (including consequential damages) relating to any use of the data.

For the purpose of the accompanying survey, each of the land parcels collected while on this map constitute 'Your holding'. The ID in the table corresponds to the parcels on the map. The total area of your holding is also listed below.

Total Holding Area (Hectares)
2006

ID	Lot	Plan	Area in hectares
1	100	LN1807	16.1
2	116	LN1805	371.0
3	136	LN1807	36.9
4	138	LN1807	46.0
5	163	LN1804	185.4
6	181	LN1806	347.6
7	2	RP180406	13.0
8	2	RP180405	341.8
9	3	RP180306	112.0
10	2	RP180305	216.5
11	773	LN2113	67.0
12	505	LN180309	126.9
13	943	LN180308	131.6
14	89	LN1805	143.2
15	1	RP180110	2



0 2
Kilometres

▲ N

Your Map Holding (15 Parcels)

- Highway
- Main Road
- Sealed Road
- Unsealed Road
- Vehicular Track
- Your Land Parcels
- Land Parcels
- Creek
- Water body

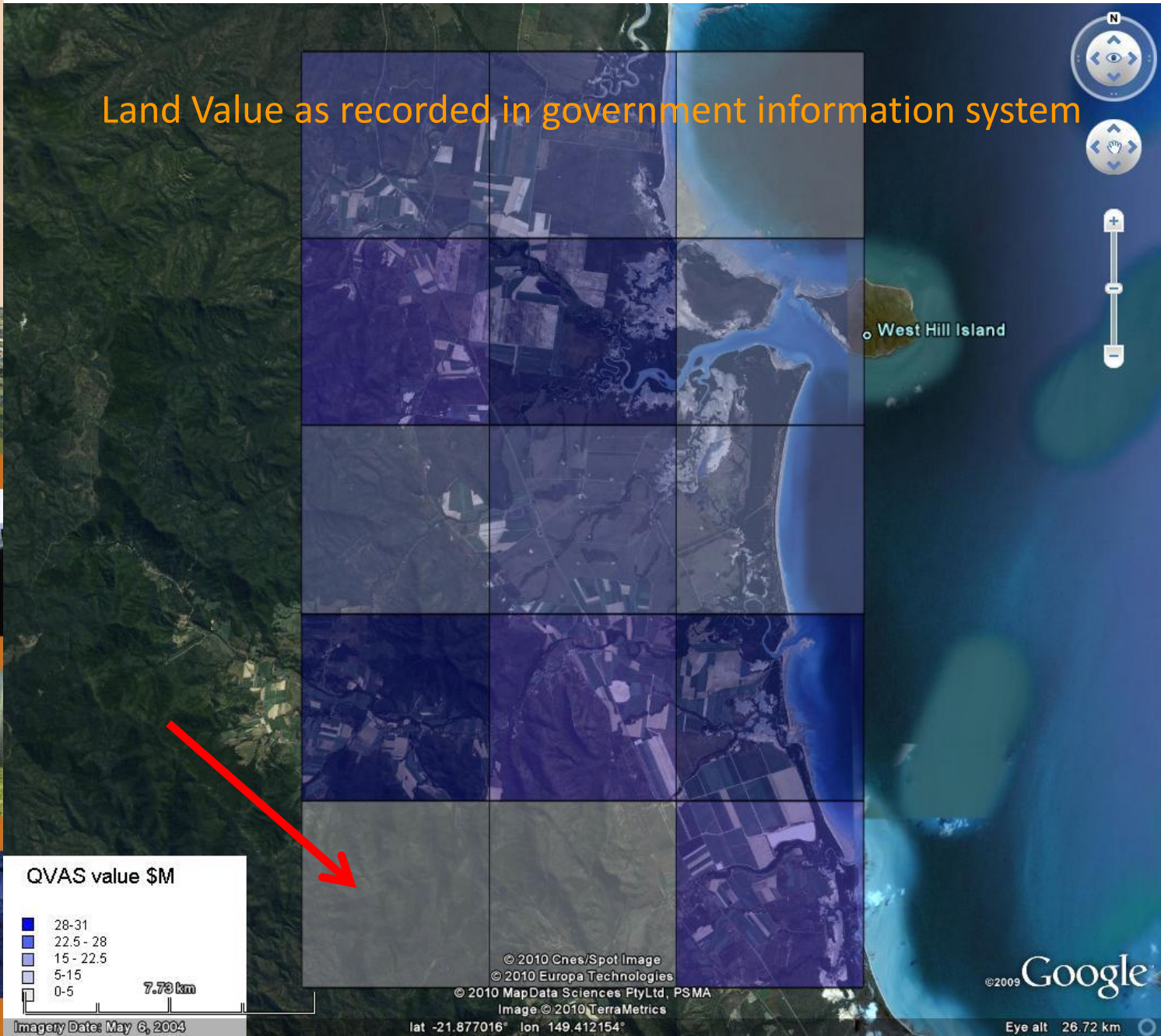
Land Account Outputs

Tables (NRM and GBR region)

- Land use by industry (hectares)
- Land use by industry(AUD\$)
- Land use classified by ACLUMP
- Dynamic Land Cover
- Vegetation cover 2006 and pre 1750
- Forest extent and change 1998 to 2008
- An interactive Google Earth[®] showing:
 - Counts of population (i.e. population) and businesses
 - Fire, temperature and rainfall
 - Rateable land value and land use



Land Value as recorded in government information system



QVAS value \$M

- 28-31
- 22.5 - 28
- 15 - 22.5
- 5-15
- 0-5

7.73 km

Imagery Date: May 6, 2004



West Rockhampton

Rockhampton

Berserker

Depot Hill



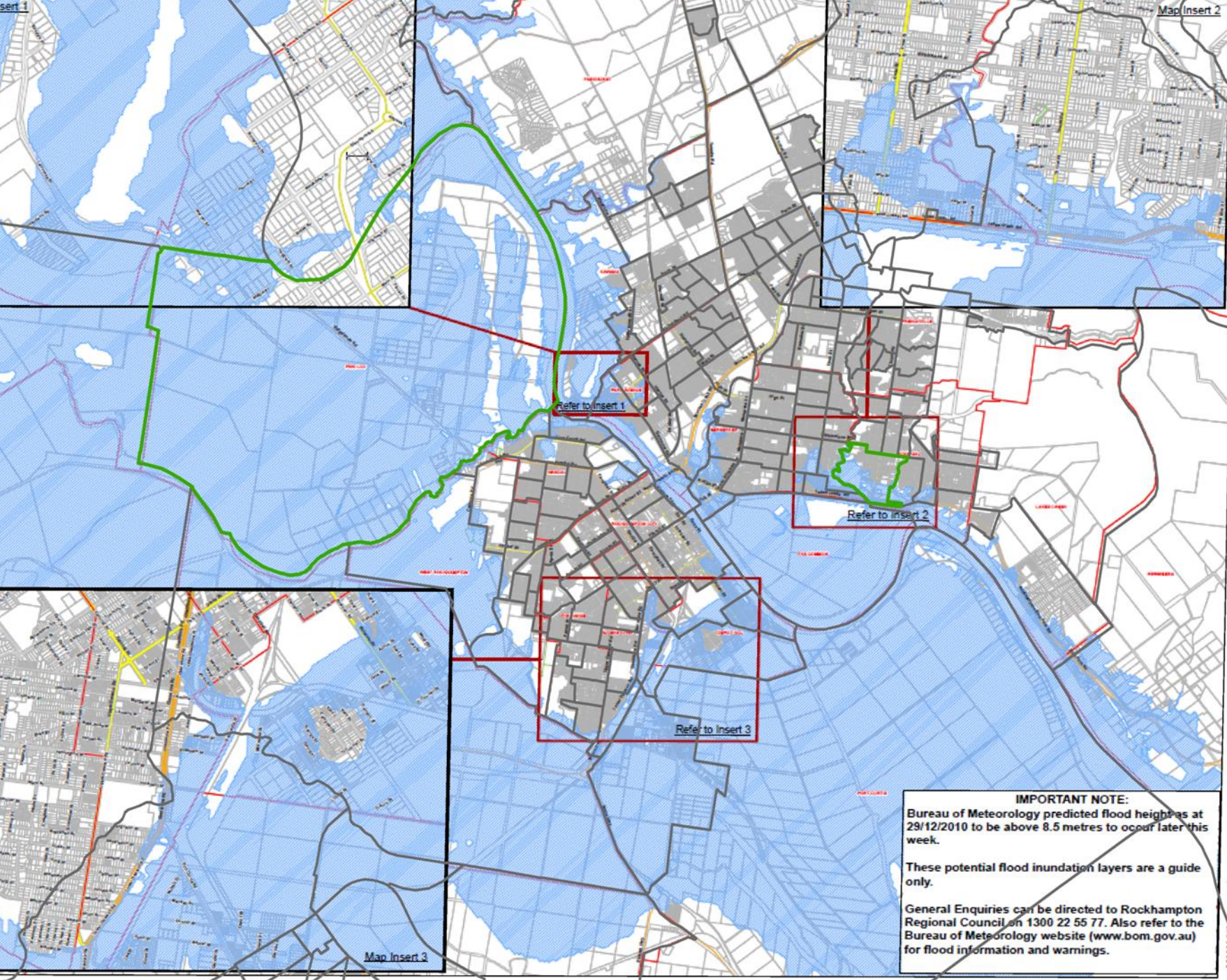
Data item	Value	Unit
ABN count	27	No
Estimated Population, 2006	251 to 310	No
Employment Range	20 to 199	No
GVIAP, 2005-06	-	\$'000
GVAP, 2005-06	9,419.8	\$'000
Water Use, 2005-06	421	ML

Source: [ABS](#)

2. Rateable value and Land use

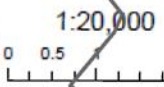
2.1 Land use and rateable land value

Data item	Value	Unit
Area of this SA1 region	3,123.6	Ha
Rateable Value	15.4	\$m
Agriculture	52.8	%
Retail/Wholesale	2.1	%
Transport Storage	-	%
Industrial	0.9	%
Sport, Recreation, Accommodation	-	%
Community Services	3.3	%
Residential	14.6	%
Vacant Land - Urban	4.5	%
Vacant Land - Rural	0.2	%



Potential Flood Inundation

Potential Flood Inundation Gauge Height of 9.0m



IMPORTANT NOTE:
 Bureau of Meteorology predicted flood heights at 29/12/2010 to be above 8.5 metres to occur later this week.

These potential flood inundation layers are a guide only.

General Enquiries can be directed to Rockhampton Regional Council on 1300 22 55 77. Also refer to the Bureau of Meteorology website (www.bom.gov.au) for flood information and warnings.

Map Insert 3

Map Insert 2

Refer to insert 1

Refer to insert 2

Refer to insert 3

Adding biodiversity to the pilot land account

- Biodiversity (or plant and animal species) is a component of ecosystems
- The ABS working with researchers at the Australian National University, the University of Queensland and the Bureau of Meteorology to investigate adding ecosystem/biodiversity and carbon stocks to the experimental land accounts.
- Species number and abundance is correlated with area and arrangement of native habitat (species area curve)
- This applied research should inform both the development of land accounts in Australia as well as the development of ecosystem accounts within the SEEA framework (i.e. SEEA Volume II)



Ecosystem accounting and The SEEA Vol. II



Australian Government
State and Territory governments
Wentworth Group (Non-government organisation of scientists)
Trials in Natural Resource Management regions
SEEA Volume II and the Australian Bureau of Statistics

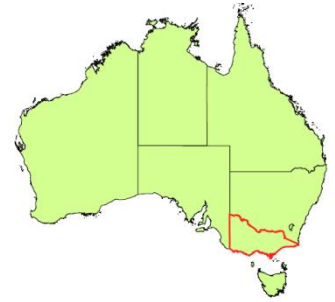
Australian Government

National Plan for Environmental Information

- Response to EPBC Report
- Work led by the Department of Environment (SEWPaC)
- Work just beginning and to continue for 3 years
- Formation of the Australia Government Environment Information Advisory Group, Chaired by BoM
- Establishment of a team to develop environmental accounts by BoM



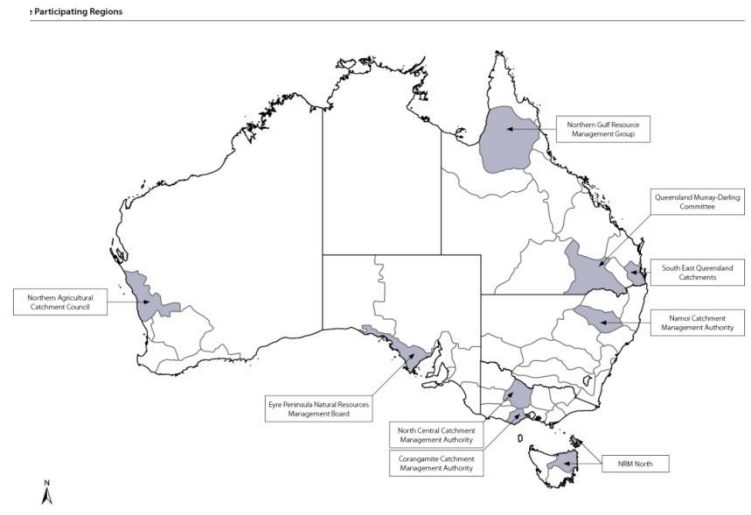
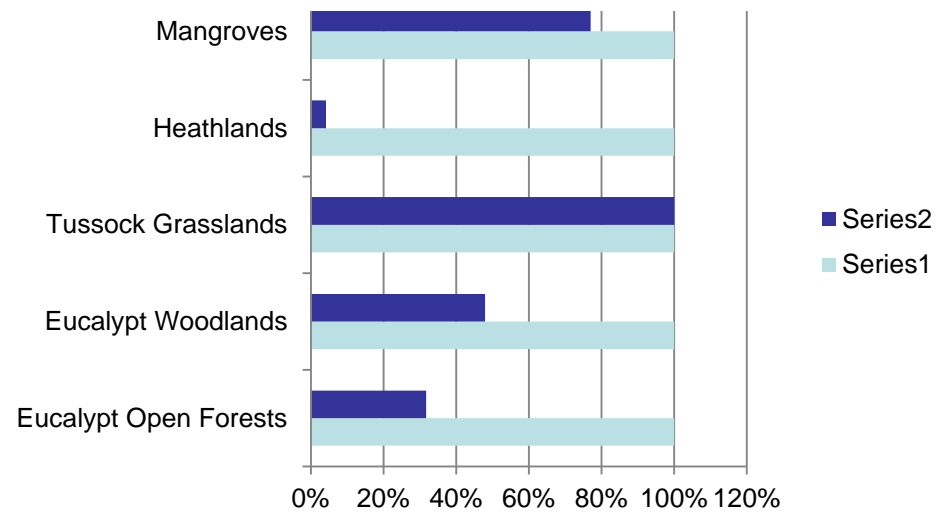
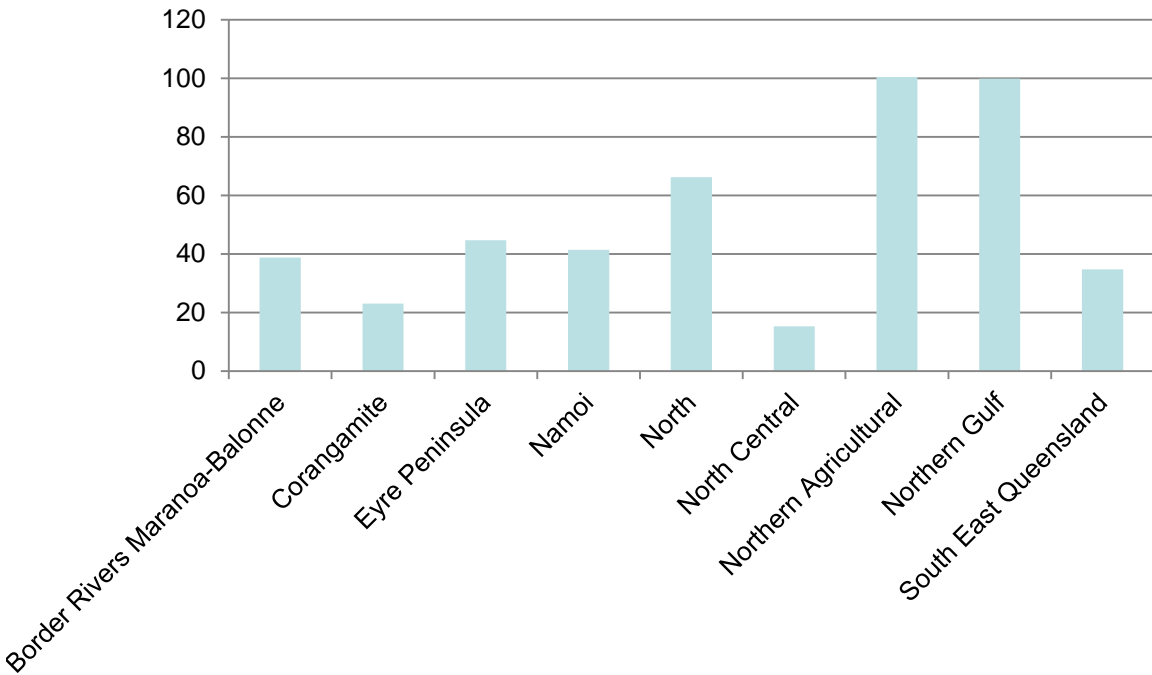
Victorian Government



- Trial land account to be produced by the ABS and Victorian Government
- Similar outputs to first trial in Queensland
- Possible addition of ecosystems:
 - Victoria has more than 1 million hectares of native vegetation on private land
 - Investigate the use of data from Bushtender/ecotender to get values for environmental goods and services



Regional land cover accounts



Quality dimension?



Mangroves	Total	18,373.0	14,160.0
	Quality 1		
	Quality 2		
	Quality 3		
	Quality 4		
	Quality 5	18,373.0	
	Unknown		14,160.0

Key issues for Australia

Defining, separately identifying and valuing

- ecosystem assets
- ecosystem goods and services

Increasing the application of accounts in decision-making

- Need potential users to better understand accounts

Building technical capability

Improving base data





Thanks for your attention

Questions?

