



Australian Government  

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Australian Research Council

# Excellence in Research for Australia



ERA 2010 Outcomes  
Business Academic Research Directors Network  
15 April 2011

# Objectives of ERA

- Establish an **evaluation framework** that gives government, industry, business and the wider community assurance of the excellence of research conducted in Australia's institutions;
- Provide a **national stocktake** of discipline-level areas of research strength and areas where there is opportunity for development in Australia's higher education institutions;
- Identify **excellence** across the full spectrum of research performance;
- Identify **emerging research areas** and opportunities for further development;
- Allow for **comparison** of Australia's research nationally and **internationally** for all discipline areas.

# General ERA Principles

1. Unit of Evaluation is the four-digit ANZSRC Field of Research code (ie. 157 possible **Units of Evaluation**); evaluation occurs at the two-digit level too
2. Evaluation by **Research Evaluation Committees** in discipline clusters; eight clusters in total
3. There is a minimum level of output to be considered '**research active**' for evaluation in ERA
4. Evaluations informed by a '**dashboard**' of discipline-specific indicators
5. Some **peer review of outputs** accessed through institutional **repositories** in some disciplines

# The ERA Clusters

Cluster 1	Physical, Chemical & Earth Sciences
Cluster 2	Humanities and Creative Arts
Cluster 3	Engineering and Environmental Sciences
Cluster 4	Social, Behavioural and Economic Sciences
Cluster 5	Mathematics, Information and Computing Sciences
Cluster 6	Biological and Biotechnological Sciences
Cluster 7	Biomedical and Clinical Health Sciences
Cluster 8	Public and Allied Health Sciences

# ERA Development 2008-2010

- Several major rounds of consultation
- Indicator Development Group (specialist sub-groups)
- Ranked journals and conferences consultation
- Discipline specific indicators
- Full trial in 2009 of PCE and HCA
  - test of systems, processes
  - feedback from sector, RECs, peer reviewers
- Esteem indicators

# The ERA Unit of Evaluation

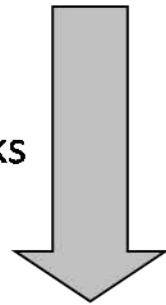
- The **baseline** - the Discipline in an institution = Four-digit Field of Research Code (ANZSRC) eg.,  
**2101 Archaeology**
- The **higher perspective** – the division in an institution = Two-digit Field of Research Code (ANZSRC) eg.,  
**21 History and Archaeology**
- The ERA Unit is not about the department nor the individual researcher



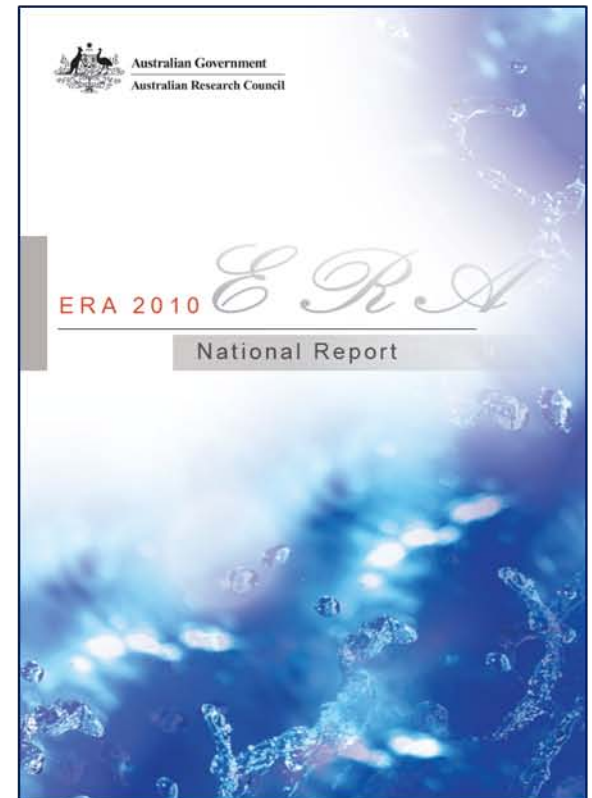
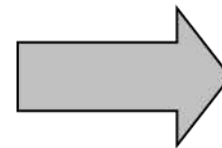
# ERA Process Overview

Volume & Activity	Ranked Outlets
Citation Analysis	Esteem
Research Income	Applied Measures
Peer Review	

International Benchmarks



Research Evaluation  
Committees



# Why a matrix approach to indicators?

- Not all indicators are suitable for all disciplines
- Pick and choose what is right for each discipline
- The indicator suite must ensure comparable quality across a range of indicator types
- Journal Rankings are not THE indicator

## ERA 2010 Reviewers

- Expert review and specialist disciplinary knowledge were essential – not a mechanical process
- 8 Research Evaluation Committees
- 149 Australian and international REC members
- 500+ Peer Reviewers from Australia and overseas
- REC members also conducted peer review

## Stages of evaluation

- Every UoE evaluated by at least three REC members (plus peer reviewers)
- Independent evaluation in the first instance followed by exchange of views
- All evaluations were advice to the full Committee
- All UoEs discussed at the final evaluation meeting
- All final ratings decisions of the Committee as a whole

# The ERA 2010 Rating Scale

Rating	Descriptor
5	The Unit of Evaluation profile is characterised by evidence of outstanding performance <b>well above world standard</b> presented by the suite of indicators used for evaluation.
4	The Unit of Evaluation profile is characterised by evidence of performance <b>above world standard</b> presented by the suite of indicators used for evaluation.
3	The Unit of Evaluation profile is characterised by evidence of average performance <b>at world standard</b> presented by the suite of indicators used for evaluation.
2	The Unit of Evaluation profile is characterised by evidence of performance <b>below world standard</b> presented by the suite of indicators used for evaluation.
1	The Unit of Evaluation profile is characterised by evidence of performance <b>well below world standard</b> presented by the suite of indicators used for evaluation.

# ERA

## Background Statement

Volume  
and  
Activity

Ranked  
Outlets

Peer  
Review

Citation  
Analysis

Esteem  
Measures

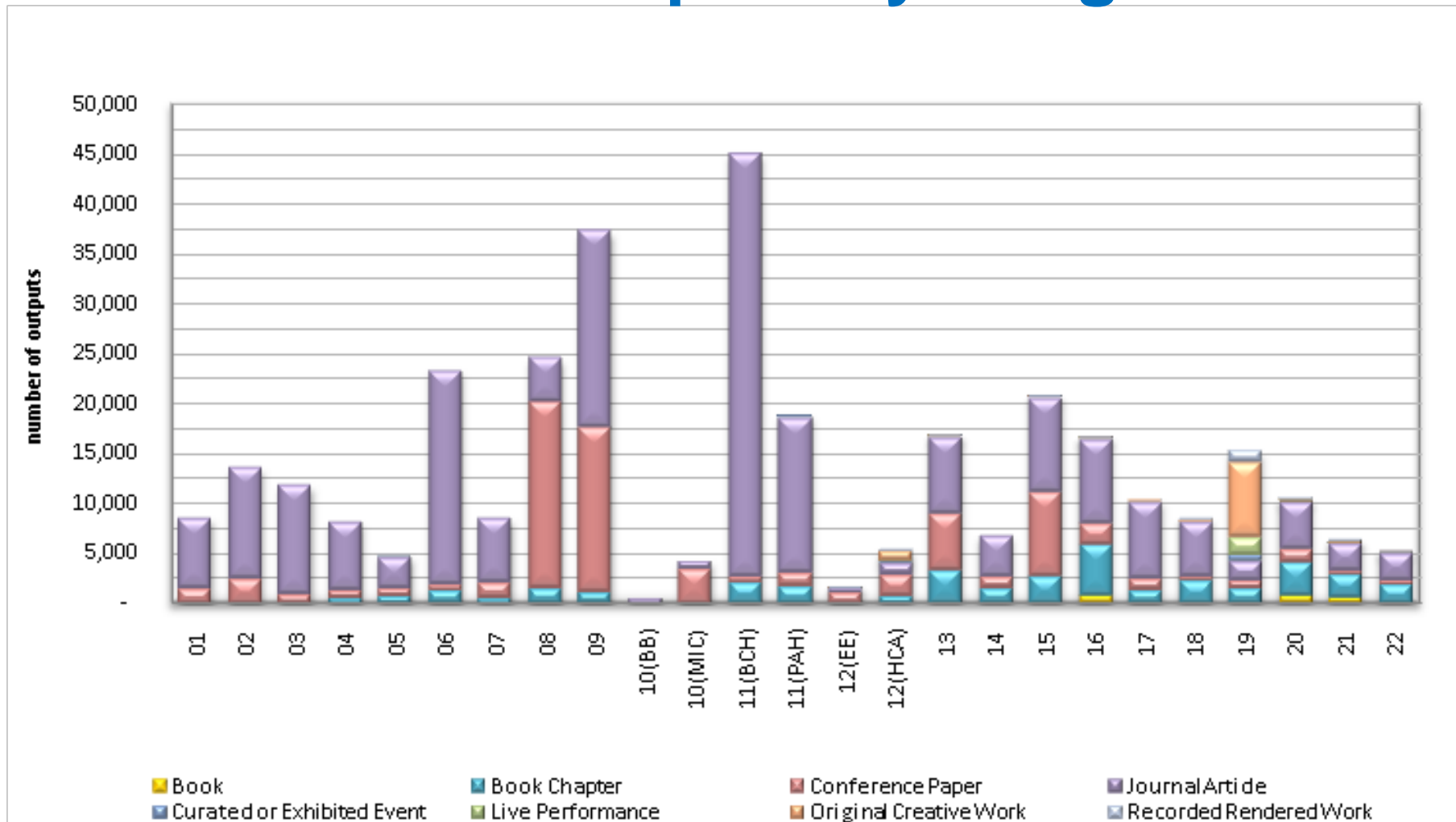
Research  
Income

Applied  
Measures

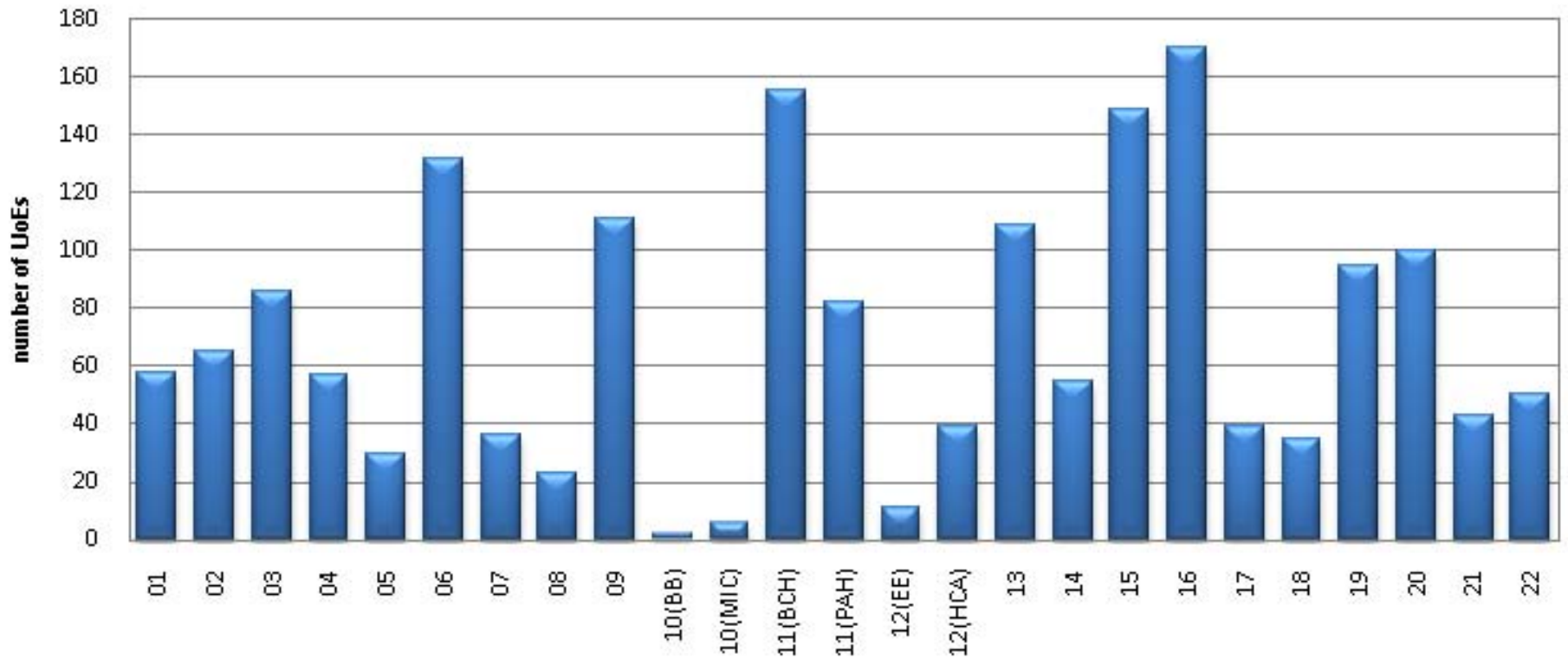
## ERA 2010 at a glance

- All 41 eligible institutions participated
- 2435 units of evaluation assessed at the two- and four-digit level
- Over 330,000 research outputs and 55,000 researchers represented

# Research outputs by 2-digit code



# UoEs by 2-digit code





**ERA 2010 – the results....**

*Research*

## ERA 2010 outcomes: context

- ERA is a **retrospective** evaluation of research performance: 2003-2008 for research outputs, 2006-2008 for other data
- The ERA unit of evaluation is the discipline within the institution, **not** individual researchers or institutional units
- ERA does not rank institutions or units; each UoE is evaluated on its merits against the rating scale

# The National Report

- [http://www.arc.gov.au/era/outcomes\\_2010.htm](http://www.arc.gov.au/era/outcomes_2010.htm)
- National profile of research activity
- Evaluation outcomes by FoR and institution
- Searchable results on-line by institution and by FoR

# Reading the national results

86% of assessed UoEs received a rating at or above world standard (i.e. rating of 3 or above).

Of all assessed UoEs at the four-digit FoR code level (58 UoEs), the average rating is 3.4. See **Section 1** for two-digit FoR code average rating.

Mathematical, Information and Computing Sciences							
01 Mathematical Sciences							
% assessed UoEs rated at or above world standard  <b>86%</b>	FTEs	880	Esteem count(s)			106	Average National Rating  <b>3.4</b>
	Research outputs	8,659	Patent(s)			1	
	Research income \$	104,624,740	Research commer. income \$			22,368,469	
	UoEs assessed	58					
Rating:		1	2	3	4	5	Total
Distribution:		1	7	25	16	9	58

There were seven UoEs which received a rating of 2.

A total of 58 UoEs were assessed for Mathematical Sciences at the four-digit FoR code level.

## 2010 results – where to from here?

- Great deal of information in the National Report
- Citation and benchmark information provided in confidence to institutions
- Extra SRE funding was contingent upon ERA 2010 participation
- ERA is informing mission-based compact negotiations between the Government and institutions

## ERA 2012

- A new ERA 2012 section has been added to the ARC website – developments will be posted there
- Ranked journal and conference lists public consultation undertaken – see ARC website – includes tender process to involve peak bodies in Stage 2
- Public consultation in March-April on indicators and other issues

## Some issues under consideration

- Low volume threshold – including both number and type of outputs
- Eligibility of fractional staff
- Reference period for income, applied, esteem
- Discipline matrix and cluster structure
- Reporting of outcomes
- Expanding peer reviewer pool
- Other issues raised by sector during consultation

# Further information?

- **[www.arc.gov.au/era](http://www.arc.gov.au/era)**
- **Email: [era@arc.gov.au](mailto:era@arc.gov.au)**
- **Hotline: 02 6287 6755**