

External review of the AEDA CERF Hub, 2-3 February 2010: review panel report

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Panelists were chosen for their personal expertise and familiarity with the different fields in which AEDA works. All opinions expressed by panelists are their own and do not necessarily reflect the views of their employers or parent organisations.

The Terms of Reference for this review were:

1. To report on the productivity of AEDA's research relative to Key Performance Indicators and other CERF hubs.
2. To report on the impact of AEDA's research.
3. To suggest new directions in terms of research and operation if CERF continues.

The findings presented in this report are based on interviews conducted with a wide range of AEDA leaders and staff, board members, end users, and PhD and postdoctoral representatives (listed in Annex 1), and on various statistics provided by AEDA (Annexes 2 to 6).

1. Productivity of AEDA's research relative to Key Performance Indicators (KPIs) and other CERF hubs

- a. Productivity has been exceptional. Targets for KPIs, especially publications, have been generally exceeded, sometimes substantially (see Annex 2). But we recognise limits of the KPIs as a comprehensive measure as they are heavily focused on outputs rather than on outcomes or impacts. We discuss outcomes and impacts under item 2 below.
- b. Numbers of papers have increased significantly compared with the baseline prior to AEDA, for example doubling in the Melbourne node.
- c. It is difficult to quantify how much output from the AEDA research nodes is attributable specifically to AEDA funds, but equally difficult to quantify the leverage power of these funds. The total AEDA output is based on roughly \$23 million total funding, leveraged in some part by \$7.2m CERF funding. In particular, other science funding sources will not fund the kind of work supported by AEDA's CERF funding.
- d. There were insufficient data to allow robust comparison with outputs of other CERF hubs, but preliminary indication is that AEDA has performed very well relative to other hubs in terms of output.

2. Impact of AEDA's research

- a. *Scientific impact:* Research output has been very high, and of high quality in high scientific impact journals (see Annexes 2, 5 and 6). The hub has achieved significant growth of a corps of researchers who are well versed in the science and application of structured evidence-based decision making, and also have exposure to the policy world. This parallels significant growth in uptake and interest in decision science due to the strong scientific credibility of the key researchers.

- b. *Policy relevance:* The hub is focused on decision makers/making at both strategic and operational levels, and is well attuned and responsive to the policy world, while recognising the typically long lag times in uptake of new science.
- c. *Communications:* Decision Point is excellent, and has attracted an avid readership (estimated at 2000) from a wide spectrum of scientists and users, thereby raising general awareness, providing a key point of contact for disseminating research expertise, and opening debate on a range of significant issues.
- d. *Capacity building, extension:* AEDA has devoted strong effort to conducting workshops to identify problems and solutions, and to train people in the use of tools such as Marxan. These have been very useful in helping agencies to think about how they can improve existing approaches to decision making.
- e. *Policy impact:* Where AEDA has engaged directly with agencies, this has generally resulted in positive uptake of tools and concepts, for example:
 - i. the use of Marxan in Commonwealth Marine Bioregional Planning;
 - ii. the influence that AEDA's approaches to conservation prioritization, and work on strategic assessments, have had on the Hawke Review of the EPBC Act; and
 - iii. the National Reserve System costing analysis, performed by AEDA in collaboration with WWF, that was used by the incoming federal government in 2008 to increase funding fivefold.
- f. *Culture change:* There is also evidence that AEDA has played a significant role in stimulating debate, and moving the culture of making/implementing policy toward a more scientific basis. Visibility and credibility of AEDA has assisted proponents of structured decision making within the agencies. This is demonstrated by the uptake of key concepts and language within agencies – including, for example, the adoption of AEDA principles in the Hawke review of the EPBC Act, and the uptake of detectability concepts in EPBC Act advice. Culture change is also being achieved through significant growth of a corps of future practitioners who are well versed in the science and application of structured decision making.
- g. AEDA has managed the science/advocacy interface well, generally achieving an effective balance between being constructive and being critical, backed up by credentials and scientific strength.
- h. The AEDA model offers low administrative overhead and flexibility with clear benefits in attracting high quality people, and allowing them to be highly productive and responsive to new information/challenges. We recognise that this has been a risky investment for government but we believe it has been amply rewarded.
- i. All of these impacts add up to a critical mass with considerable momentum that promises to deliver significant further improvement in environmental decision making.
- j. *Additionality:* If AEDA had not been funded during the past few years, we believe that we would have seen much less rigour in government decision-making, less efficient use of public resources, a loss of Australia's global leadership position in applied decision research and many fewer skilled future decision makers in biodiversity policy and decision making.

3. New directions for AEDA in terms of research and operations if CERF continues

- a. While recognizing the benefits of AEDA's lean and nimble approach to date, we identified a clear need for more precise accounting of the attribution/leverage of funding to provide greater clarity about the return on CERF investment in AEDA. We feel this should be relatively easy to fix.
- b. Strengthen linkage and liaison between DEWHA and AEDA, such as through appointment of a liaison position, a buddy system, secondments, exchanges, and a graduate program.
- c. Provide for a formal process to wrap up and evaluate AEDA projects.
- d. Build on the major success of Decision Point and find more ways to synthesise and communicate research.
- e. Strengthen research on the sufficiency, as well as efficiency, of conservation actions.
- f. We welcome and encourage the ambition of AEDA to tackle more difficult multi-objective problems (typical of most NRM work), to model actual processes of decision making and government resource allocation, and to develop new monitoring and forecasting approaches to support major environmental assessments such as State of the Environment reporting.

4. Challenges for uptake of applied decision analysis beyond CERF

- a. We identified a need for stronger future resourcing of the extension and operationalisation of AEDA research, to enable adoption of AEDA's concepts and techniques by a broader range of end users throughout Australia, but recognised this is not AEDA's primary responsibility.

Annex 1: List of review participants (included in this document)

Annex 2: Summary of AEDA's performance against Key Performance Indicators (separate document prepared by AEDA staff – *AEDA Review Annex 2.pdf*)

Annex 3: Summary of end users involved in AEDA projects (separate document prepared by AEDA staff – *AEDA Review Annex 3.pdf*)

Annex 4: Details of end users involved in AEDA projects (separate document prepared by AEDA staff – *AEDA Review Annex 4.pdf*)

Annex 5: Summary of number of outputs per AEDA project (separate document prepared by AEDA staff – *AEDA Review Annex 5.pdf*)

Annex 6: Details of outputs per AEDA project (separate document prepared by AEDA staff – *AEDA Review Annex 6.pdf*)

ANNEX 1: AEDA External Review Participants – February 2nd and 3rd, 2010

Hugh Possingham (Director – AEDA) - UQ
Brendan Wintle (Deputy Director – AEDA) – UNI MELB
David Lindenmayer (Hub Leader – ANU)
Mick McCarthy (Hub Leader – UNI MELB)
Karen Gillow (Knowledge Broker) – UQ
David Salt (Knowledge Broker) – ANU
Jane Breeding (Business Manager) - UQ

END USERS

Peter Latch (DEWHA)
Simone Retif (DEWHA)
Fiona Leverington (DERM)
Sue Briggs (NSW DECCW)
Max Bourke (The Thomas Foundation)
David Freudenberger (Greening Australia)
John Wright (Parks Vic)
Margaret Considine (DEWHA)
Geoff Richardson (DEWHA)
Geoff Park (North Central CMA & Landscape Logic)
David Duncan (Dept Sustainability & Environment)

AEDA BOARD

Charlie Zammit (DEWHA)
Peter Cochrane (DEWHA)
Richard Hobbs (UNI W.A), via phone

PHD REPRESENTATIVES

Carissa Klein (UQ)
Josie Carwardine (UQ)
Tracy Rout (UNI MELB)
Georgia Garrard (UNI MELB)
Kara Youngentob (ANU)

POST DOCTORAL REPRESENTATIVES

Liana Joseph (UQ)
Eve McDonald-Madden (UQ)
Joslin Moore (UNI MELB)
Don Driscoll (ANU)
Phil Gibbons (ANU)