

Annual Report

2005

ARC Research Network

Discovering the Past and Present to shape the Future:
Networking Environmental Sciences for understanding and
managing Australian Biodiversity



Australian Government
Australian Research Council



**THE UNIVERSITY
OF ADELAIDE**
AUSTRALIA

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**Discovering the Past and Present to
Shape the Future:
Networking Environmental Sciences for
Understanding and Managing Australian
Biodiversity**

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Objective and research priorities of the network

This ARC Research Network was funded in 2004 to provide the mechanism for researchers from widespread disciplines to come together to discuss the major factors impacting on Australian biodiversity (past, present and future) and to plan innovative, multidisciplinary research projects to inform researchers, resource managers and the general public of the consequences of those impacts. Our strategic plan was to spend the first two years (two major funding rounds) gathering together the very good, but poorly developed multidisciplinary proposals in this area that were developed during the planning phases of this Network application and following this to have a further strategic planning session to identify gaps in our research as a means of focusing future funding options.

Questions of particular interest in shaping the research priorities of the network include:

- How did Australia's terrestrial and freshwater biota respond to the Great Australian aridification?
- What has been the impact of *Homo sapiens* on the Australian continent? How has this impact differed between terrestrial, freshwater and marine environments, and why?
- How diverse is Australia's invertebrate fauna, what are the invertebrate 'hotspots' and how should they be managed? (similarly for other groups of organisms)
- What are the dynamics of extinction in Australia? When were the periods of elevated extinction, what caused these and what traits of species effect extinction risk?
- When did the extant lineages of our biota diversify and why?
- What determines species' distribution and how will climate change impact on distribution?

There are two approaches that are being used to address research priorities for the research network:

- a series of workshops where teams of researchers meet to develop and explore novel approaches to major research questions, and
- 'e'-science initiatives where communication among the members of a specific research program, and other network members and end users, is developed and run through web-based platforms.

Governance

Convenor

Professor Bob Hill, School of Earth and Environmental Sciences, University of Adelaide, is the convenor of the ARC Research Network for Understanding and Managing Australian Biodiversity.

Management Team

The Network Convenor, Bob Hill, meets regularly with the Network Administrator, Ms Maria Lekis, to discuss day-to-day running matters. The Network Manager, Dr Jackie Venning, joined the management group in November 2005. This group is responsible for the administration of the network and for enabling effective communication between its members.

Research Advisory Group

The advisory group (also referred to as the Executive Management Committee) provides guidance and advice to the Network Convenor regarding the development of the research program. In 2005 membership of this group was:

- Prof Bob Hill, Head, School of Earth and Environmental Sciences, University of Adelaide (Chair)
- Prof Andy Austin, Director, Centre for Evolutionary Biology and Biodiversity, University of Adelaide
- Dr Sean Connelly, Department of Marine Biology, James Cook University
- Prof Steve Donnellan, Evolutionary Biology Unit, South Australian Museum
- Prof Arthur Georges, Director, Applied Ecology Research Group, University of Canberra
- Dr Simon Haberle, Department of Archaeology and Natural History, Australian National University
- Dr Jackie Venning, School of Earth and Environmental Sciences, University of Adelaide (Executive Officer) (from November 2005)

While the original application proposed to have both an advisory and an executive management group committee it was agreed at the strategic planning workshop in February 2005 that it would be more efficient to combine their roles.

Communications Group

Communication with Network members has to date been managed by the EFN Management Team. However as the working groups start to produce results it is intended that those chief investigators with specialist communication skills will be asked to contribute to this group to promote the research outcomes.

Membership

A list of participants is provided in Attachment 1. The network has increased its membership during the year mainly through the participation of post doctoral and PhD students.

Communication

The Network website is the primary vehicle to foster communication. Members are advised by email when notices of particular interest, eg news announcements, calls for grant applications, are posted on the website. The research network website can be accessed at:

<http://nesuab.ees.adelaide.edu.au/page/default.asp?site=1>

The website has been established with a facility that permits those involved in a project to place files or comments about the project on the site for the information and comment of other members of their group. Access is password protected.

Network program 2005

Strategic planning workshop

All chief investigators were invited to attend a workshop to discuss research directions for the Network. Twenty-four CIs attended a strategic planning workshop, held at the South Australian Art Gallery in Adelaide on 25 February 2005. Mark Douglas, Ethos Australia, facilitated the session.

At this workshop it was agreed that two funding streams would be administered to foster collaborative research approaches; the first to Working Groups to develop multidisciplinary projects and the second to support early career researchers (ECRs) for activities with a strong emphasis on interdisciplinary activities. Also it was agreed that the working group applications would be required to have an ECR as part of the CI's team. The themes that would form the research focus for the network were discussed and the sorts of projects likely to attract funding from the network identified. A process for developing funding applications to the research network was developed (see Attachment 2).

Project Working Groups (Round 1)

The first funding round for the project working groups was in June 2005 with six of the nine applicants awarded a grant on the basis of an agreed set of selection criteria. Proposals were rated according to the following criteria:

- Does the proposed activity help define the important big questions on Australia's biodiversity and its management?
- Does it develop novel approaches, techniques and readily accessible data sources to better equip the research community to answer such questions?
- Will it promote a culture of synthesis and collaboration, bringing together researchers and facilities across disciplines to form new synergies?
- Will the immediate benefits of the new collaborations be realised in the form of novel large-scale collaborative grant applications that are competitive nationally and internationally (applications that would not have occurred or would have occurred in less ambitious form without the network)?
- Does it provide opportunities for ECRs to gain broader experience of research teams and facilities nationally and internationally and to engage in research initiatives in a more strategic way?
- Will it produce research outputs that are synthetic works appearing in leading journals and with a high potential to influence research directions in our respective disciplines?
- Will the activity interface with resource management agencies to capture their knowledge needs and to communicate the value to management of the understanding generated from the proposed activity?

Members of the Research Advisory Group distributed their own views on the merit of each application via email before a scheduled meeting. Decisions on the granting of awards, with or without amendment, were made by consensus. We attempted to use external referees for this first round of Working Group applications, but the return was poor and slow and so this process was abandoned. It was decided that there was sufficient broad level expertise on the Management Committee to allow this group to handle assessment of applications in future.

Table 1 – Project working groups (Round 1)

	Applicant+	Research project	Amount (\$)*
1.	Prof Terry Hughes, James Cook University	Coping with change: resilience of marine social-ecological systems	90 000
2.	Dr Peter Gell, University of Adelaide	Recent human impact on Australian ecosystems	79 000
3.	Dr Dan Faith, Australian Museum	Multidisciplinary approaches to key Australian biodiversity challenges of 2010 and beyond	88 000
4.	Dr Tim Denham, Monash University	Plant exploitation and domestication east of the Wallace Line: Movement, manipulation and management of plant biodiversity	87 450
5.	Prof Peter Kershaw, Monash University	Land-Ocean correlation of long Quaternary records from the southern hemisphere on orbital and sub-orbital timescales	41 000
6.	Dr Sean Connell, University of Adelaide	An ecological history of Australia's temperate marine environments: accounting for the shifting baseline syndrome	90 000

+ Full list of participants for each project is provided in Attachment 2

* The grant is to be paid in three cycles. Grant recipients must demonstrate good progress at each cycle to receive next payment. Each project has a different schedule of payments.

The applicants were notified of the outcome of the first round in August 2005. Transfer of funds commenced in early 2006.

In the first round two applicants were asked to combine their proposals and resubmit a combined application for consideration in Round 2. A workshop, chaired by Dr David Yeates, was held in Canberra in December 2005 to reformat the application. Payment for this activity will be finalised in early 2006. A full list of participants in the Working Group projects is included in Attachment 3.

Project Working Groups (Round 2)

The second round of funding for Project Working Groups was called in early December. Closing date for applications was 28 February 2006.

Annual General Meeting

All network CIs, plus members of Project Working Groups, were invited to attend the Annual General Meeting held 27-30 October on Kangaroo Island. Twenty-two delegates attended. At the AGM progress reports were provided by the CIs of the funded Project Working Groups. The meeting was structured to promote the involvement of those ECRs in these Groups. For example, an ECR was given the opportunity to report on progress and lead the discussion for one of the groups.

The program and those attending the various sessions is available at:

<http://www.ees.adelaide.edu.au/events/enviro/KIConference.htm>

ECR projects (Round 1)

Under this program, an early career researcher is defined as someone who is enrolled for a research higher degree, or is less than 5 years post PhD, ie they were awarded their PhD in 2000 or later. This process was chaired by Professor Andy Austin.

The first round of the Early Career Researcher (ECR) projects was called in November. The ten applications received were assessed on the following criteria.

- Does it broaden the research experience of an ECR in a manner that is compatible with the objectives of the cluster?
- Does it provide opportunities to gain broader experience of research teams and facilities nationally and internationally and to engage in research initiatives in a more strategic way?
- Does provide opportunities to learn new techniques and broaden research perspectives that directly contribute to the applicant's research and generally contribute to furthering their careers?
- Does it relate to training courses or workshops in Australia or overseas that will directly contribute to broadening the applicant's research perspectives and generally contribute to furthering their careers?

Members of the Research Advisory Group distributed their own views on the merit of each application via email before a scheduled meeting. Decisions on the granting of awards, with or without amendment, were made by consensus. The following applicants were successful.

Conflict of Interest

Conflict of interest is dealt with by requesting the person concerned to step aside from the relevant part of the process.

Table 2 – ECR projects (Round 1)

	Applicant	Research project	Amount (\$)
1.	Kate Muirhead, University of Adelaide	Research visit: Coevolution of the <i>Cotesia flavipes</i> complex and their polydnviruses: toward the effective control of stem borers in Australia	3 500
2.	Susan Cameron, University of California Rob Waterworth, Australian National University	Workshop: Multidisciplinary training workshop for the integration of biodiversity modelling, environmental data, phylogenetic diversity, and carbon accounting	15 000
3.	Daniel Warner, University of Sydney	Research Visit: The adaptive significance of temperature-dependent sex determination in an Australian lizard	1 000
4.	Dr Nick Murphy, University of Adelaide	Research visit : Insect parasitoid evolution	3 500
5.	Dr Tobias Uller, University of Woolongong	Workshop: Sex Allocation in Reptiles: Ecology, Evolution and Conservation	3 600
6.	Dr John Tibby, University of Adelaide Dr Jennie Fluin University of Adelaide	Short course: Enhanced understanding of shallow lake ecology-interpreting sediment records of plant remains	9 863
7.	Conrad Hoskin,	Research Visit: The origin and future of <i>Cophixalius</i>	3 500

	University of Queensland	frog diversity of Australia's wet tropics rainforests	
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Two applicants were encouraged to apply for supplementary funding to allow more ECRs to participate in their projects. Another applicant was asked to resubmit his application for funding in the second ECR round called in February 2006. No funds were transferred in 2005.

Program outcomes

Response to the two programs streams has been encouraging, both in terms of the number and the quality of applications. The projects are in their early stages and it is too early to report on developments.

However, the Research Network proved invaluable when preparing an application for a research hub under the Commonwealth Environment Research Facilities (CERF) program in the later part of the year. The Network provided a readily accessible pool of expertise to develop and support the research proposal.

A list of performance measures is included in Attachment 4.

Network program 2006

Project working group (Rounds 2 & 3)

The second round of Project Working Group applications will be assessed in early April 2006 and it is anticipated that a third round will be called sometime later in the year.

ECR projects (Rounds 2 & 3)

The second round of ECR applications will be assessed late April/May 2006. Again it is anticipated that a third round of ECR applications will be called later in the year. A more strategic approach is likely to be adopted in future rounds.

Annual General Meeting

It was originally intended to hold the next AGM in late September 2006, but as many members will be attending the Southern Connection Conference in Adelaide in January 2007, it was decided to defer the AGM until just before the conference so that Network members can meet with Southern Connection members. The Southern Connection is a large group of scientists, from all continents, with shared interests in the biology and earth history of the southern hemisphere. Combining the two events will greatly extend the outreach of this research network meeting. The Conference is being organised by Network Management Committee members Andy Austin and Bob Hill.

The AGM will be an opportunity to discuss progress with the first rounds of working group and ECR projects. Information will be posted on the Network website and attendance will be open to all members. However the Network will only meet the travel and accommodation costs for CIs and members of funded working group projects.

At the AGM our progress towards the achievement of stated objectives will be evaluated. By that time we will have supported enough working groups to enable us to evaluate where our best successes lie and where our gaps in research are. This will guide the way we commit funding for subsequent working group applications.

TOTAL EXPENDITURE	\$76 981.54
Carryover amount:	\$379 318.46

Provide the reason for carryover in the column below:

It is essential that reasons be provided by carryover requests

The funding model developed by this Network concentrates on large Working Group applications, funded over approximately two-year periods in each case. The first round of these applications took some time to develop, but they are now in place. However, the majority of the funding is taking place in 2006. A second round of applications has now closed. As well as the delay in getting the funding underway, we also realised that this funding model required that we should not commit our full funding in the first year, or else we would not be able to fund any new proposals for the following two years. Once we are in to our third funding cycle the expenditure will catch up with the funding provided.

It is the responsibility of the Research Network to ensure that the carryover amount requested in this document is the same as that which is forwarded electronically to the ARC by their Institution's Administration in a separate End of Year Report.

Research Network Convenor or Delegate:

Professor Robert S. Hill

Signature:



Date: 1st September 2006

Attachment 1 – Register of research network participants

	Title	Name		Department	Institution	Country	Highest Qual.	Date	MemberType
1		Abdulla	Ameer		James Cook University	Australia			PhD student
2	Dr	Adams	Michael		University of Wollongong	Australia	PhD		P/doc
3		Alacs	Erica		University of Canberra	Australia			PhD student
4	Dr	Andersen	Alan	Tropical Ecosystems Research Centre	CSIRO Sustainable Ecosystems	Australia	PhD	1985	M
5	Prof	Anderson	Athol	School of Pacific & Asian Studies	Australian National University	Australia			M
6		Andrew	Debbie		University of Wollongong	Australia			PhD student
7	Dr	Attenbrow	Val	Anthropology	Australian Museum	Australia			M
8	Prof	Austin	Andrew	Centre for Evolutionary Biology & Biodiversity	University of Adelaide	Australia	PhD	1982	CI
9	Dr	Baird	Andrew		James Cook University	Australia	PhD		P/doc
10	Dr	Baker	Andrew	School of Natural Resource Sciences	Queensland University of Technology	Australia			M
11		Banks	Sam		Monash University	Australia			PhD student
12	Dr	Barbour	Robert		University of Tasmania	Australia	PhD		P/doc
13		Barker	Jenny		University of Adelaide	Australia			PhD student
14		Barr	Cameron		University of Adelaide	Australia			PhD student
15	Prof	Baverstock	Peter	Pro-Vice Chancellor (Research)	Southern Cross University	Australia	DSc	1989	CI
16		Bay	Line		James Cook University	Australia			PhD student
17		Beavis	Amber		Australian National University	Australia			PhD student
18	Ms	Beeby	Rosslyn	Journalist	Canberra Times	Australia	-	-	M
19		Bell	Karen		University of Queensland	Australia			
20	Prof	Bellwood	David	Centre for Coral Reef Biodiversity	James Cook University	Australia	PhD	1986	CI
21	Dr	Bennett	Andrew	School of Biological Sciences	University of Bristol	England	PhD	1991	M
22	Dr	Berg	Matthew		University of Bristol	England	PhD		P/doc
23	Dr	Bestland	Erick	School of Chemistry, Physics & Earth Sciences	Flinders University	Australia	PhD		M
24	Dr	Blacket	Mark		La Trobe University	Australia	PhD		P/doc
25		Bode	Michael		University of Queensland	Australia			PhD student
26	Dr	Bone	Yvonne	School of Earth & Environmental Sciences	University of Adelaide	Australia			M
27	Dr	Bourke	Patricia	School of Australian Indigenous Knowledge Systems	Charles Darwin University	Australia	PhD		M

	Title	Name		Department	Institution	Country	Highest Qual.	Date	MemberType
28	Prof	Bowler	Jim	School of Earth Sciences	University of Melbourne	Australia	PhD	1970	CI
29	Prof	Bowman	David	Key Centre for Tropical Wildlife Management	Charles Darwin University	Australia	DSc	2001	CI
30		Braccini	Juan		University of Adelaide	Australia			PhD student
31	Dr	Brook	Barry	Key Centre for Tropical Wildlife Management	Charles Darwin University	Australia	PhD	1999	CI
32	Dr	Brown	Gregory		University of Sydney	Australia	PhD		P/doc
33		Brown	Jonathan		Monash University	Australia			PhD student
34		Bulpin	Sorell		University of Adelaide	Australia			PhD student
35	Dr	Bustamante	Rodrigo	Northern Fisheries & Ecosystems Research Group	CSIRO	Australia	PhD	1994	M
36	Dr	Butler	Alan	Torres Strait Marine Resources	CSIRO	Australia	PhD	1972	CI
37	Dr	Byrne	Margaret		CALM, WA	Australia	PhD	1992	CI
38	Dr	Byrne	Phil		Australian National University	Australia	PhD		P/doc
39		Caldwell	Katherine		University of Adelaide	Australia			PhD student
40		Cameron	Sue		University of California	USA			PhD student
41	Dr	Cantrill	David	Department of Sustainability & Environment	National Herbarium of Victoria	Australia			M
42		Carew	Melissa		La Trobe University	Australia			PhD student
43	Dr	Chapman	Thomas		Flinders University	Australia	PhD		P/doc
44	Prof	Chappell	John	Research School of Earth Sciences	Australian National University	Australia	PhD	1973	CI
45		Chapple	David		Australian National University	Australia			PhD student
46	Assoc Prof	Christidis	Les	Sciences Department	Museum Victoria	Australia	PhD	1985	M
47		Clark	Ellen		Flinders University	Australia			PhD student
48		Clarke	Simon		University of Wollongong	Australia			PhD student
49		Cobiac	Linda		University of Queensland	Australia			PhD student
50	Ms	Colreavy	Mary	Australian Biological Resources Study	Department of Environment and Heritage	Australia	Grad Cert Pub Pol	1998	CI
51	Dr	Connell	Sean	School of Earth & Environmental Sciences	University of Adelaide	Australia	PhD	1994	CI
52	Dr	Connolly	Sean	Centre for Coral Reef Biodiversity	James Cook University	Australia	PhD	1999	CI
53		Cook	Ellyn		Monash University	Australia			PhD student
54	Prof	Cooper	Alan	Department of Zoology	University of Oxford	England	PhD	1994	CI

	Title	Name		Department	Institution	Country	Highest Qual.	Date	MemberType
55	Dr	Cooper	Steve	Evolutionary Biology Unit	South Australian Museum	Australia	PhD	1991	M
56		Cox	Justine		University of Wollongong	Australia			PhD student
57		Crouch	Joe		Monash University	Australia			PhD student
58	Prof	Crozier	Ross	School of Tropical Biology	James Cook University	Australia	PhD	1969	CI
59	Dr	Cupper	Matt	School of Earth Sciences	University of Melbourne	Australia	PhD	2003	M
60	Dr	David	Bruno	School of Geography & Environmental Science	Monash University	Australia	PhD	1994	CI
61		Denham	Tim	School of Geography & Environmental Science	Monash University	Australia	PhD		M
62		Depscyznski	Martial		James Cook University	Australia			PhD student
63	Dr	Dixon	Kingsley	-	Kings Park & Botanic Gardens, Perth	Australia	PhD	1981	M
64	Dr	Doelman	Trudy		University of Sydney	Australia	PhD		P/doc
65		Dolman	Gaynor		University of Queensland	Australia			PhD student
66		Donders	Timme		Utrecht University	The Netherlands			PhD student
67	Dr	Donnellan	Steve	Evolutionary Biology Unit	South Australian Museum	Australia	PhD	1985	CI
68		Dornelas	Maria		James Cook University	Australia			PhD student
69	Dr	Dortch	Joe		University of Sydney	Australia	PhD		P/doc
70	Dr	Driscoll	Don	School of Biological Sciences	Flinders University	Australia	PhD	1997	CI
71		Edwards	Danielle		University of Western Australia	Australia			PhD student
72		Elsdon	Travis		University of Adelaide	Australia			PhD student
73		Elwood	Cecilia		Monash University	Australia			PhD student
74		Esparza Salas	Rodrigo		James Cook University	Australia			PhD student
75	Dr	Faith	Daniel	Biodiversity & Systematics Unit	Australian Museum	Australia	PhD	1979	CI
76	Prof	Farquhar	Graham	Research School of Biological Sciences	Australian National University	Australia	PhD	1973	CI
77	Dr	Field	Judith	Department of Archaeology	University of Sydney	Australia	PhD	1996	M
78	Dr	Field	Scott	School of Earth & Environmental Sciences	University of Adelaide	Australia			P/doc
79	Dr	Fink	David	ANSTO Environment	Australia Nuclear Science and Technology Organisation	Australia	PhD	1987	M
80		Fitch	Alison		Flinders University	Australia			PhD student
81	Dr	FitzSimmons	Nancy	Applied Ecology Research Group	University of Canberra	Australia	PhD		M

	Title	Name		Department	Institution	Country	Highest Qual.	Date	MemberType
82	Prof	Flannery	Tim		South Australian Museum	Australia	PhD	1985	CI
83	Dr	Fluin	Jennie	School of Earth & Environmental Sciences	University of Adelaide	Australia	PhD		P/doc
84		Ford	Fred		James Cook University	Australia			PhD student
85		Fordham	Damien		University of Canberra	Australia			PhD student
86		Fowler-Walke	Meegan		University of Adelaide	Australia			PhD student
87	Emerit. Prof	Frakes	Larry	Discipline of Earth Science	University of Adelaide	Australia	PhD	1964	M
88	Dr	Framenau	Volker		Western Australian Museum	Australia	PhD		P/doc
89		Fulton	Christopher		James Cook University	Australia			PhD student
90	Dr	Gale	Stephen	School of Geosciences	University of Sydney	Australia	PhD		M
91		Garrick	Ryan		La Trobe University	Australia			PhD student
92	Dr	Gell	Peter	Geographical & Environmental Studies	University of Adelaide	Australia	PhD	1997	M
93	Prof	Georges	Arthur	Applied Ecology Research Group	University of Canberra	Australia	PhD	1982	CI
94	Dr	Gillanders	Bronwyn	School of Earth & Environmental Sciences	University of Adelaide	Australia	PhD	1996	M
95		Glavinic	Ana		Flinders University	Australia			PhD student
96	Dr	Grice	Kliti	Centre of Applied Organic Geochemistry	Curtin University of Technology	Australia	PhD		M
97		Gosper	Carl		University of Wollongong	Australia			PhD student
98	Dr	Grove	Simon	Division of Forest Research & Development	Forestry Tasmania	Australia	PhD	2001	M
99		Guerin	Greg		University of Adelaide	Australia			PhD student
100		Gunawardne	Nilanaga		University of Adelaide	Australia			PhD student
101	Dr	Haberle	Simon	Department of Archaeology & Natural History	Australian National University	Australia	PhD	1994	CI
102	Assoc Prof	Hall	Jay	School of Social Sciences	University of Queensland	Australia	PhD	1979	M
103		Halt	Magda		University of Adelaide	Australia			PhD student
104		Hansen	Birgita		Monash Univeristy	Australia			PhD student
105	Dr	Harvey	Mark	Department of Terrestrial Invertebrates	Western Australian Museum	Australia	PhD	1983	M
106		Hauser	Cindy		University of Queensland	Australia			PhD student
107		Heemstra	Simon		University of Wollongong	Australia			PhD student

	Title	Name		Department	Institution	Country	Highest Qual.	Date	MemberType
108	Prof	Heijnis	Henk	ANSTO Environment	Australia Nuclear Science and Technology Organisation	Australia	PhD	1992	M
109	Dr	Hickerson	Michael		University of California	USA	PhD		P/doc
110	Prof	Hill	Robert	School of Earth & Environmental Sciences	University of Adelaide	Australia	DSc	1997	CI
111		Hobbs	Jean-Paul		James Cook University	Australia			PhD student
112	Prof	Hoffmann	Ary	Centre for Environmental Stress & Adaptation Research	La Trobe University	Australia	PhD	1984	CI
113		Hoogenboom	Mia		James Cook University	Australia			PhD student
114	Dr	Hopper	Steve		Kings Park & Botanic Gardens, Perth	Australia	PhD	1978	M
115		Hoskin	Conrad		University of Queensland	Australia			PhD student
116	Dr	Hugall	Andrew		University of Adelaide	Australia	PhD		P/doc
117	Prof	Hughes	Terry	Centre for Coral Reef Biodiversity	James Cook University	Australia	PhD	1984	CI
118	Dr	Hughes	Jane	Centre for Riverine Landscapes	Griffith University	Australia	PhD		M
119		Il-Kwon	Kim		Australian National University	Australia			PhD student
120		Irving	Andrew		University of Adelaide	Australia			PhD student
121	Dr	Johnson	Chris	School of Tropical Biology	James Cook University	Australia	PhD	1986	CI
122		Johnston	Rochelle		Monash University	Australia			PhD student
123	Dr	Jordan	Greg	School of Plant Science	University of Tasmania	Australia	PhD	1993	M
124	Dr	Joseph	Leo	Department of Biology	University of Pennsylvania	USA	PhD		M
125		Joseph	Liana		University of Queensland	Australia			PhD student
126		Joyce	Narelle		Flinders University	Australia			PhD student
127		Kassahn	Karin		James Cook University	Australia			PhD student
128	Dr	Kear	Ben	School of Earth & Environmental Sciences	University of Adelaide	Australia			P/doc
129	Dr	Kearney	Michael		La Trobe University	Australia	PhD		P/doc
130		Kellerman	Vanessa		La Trobe University	Australia			PhD student
131		Kendal	Trish		Monash University	Australia			PhD student
132	Dr	Keogh	Scott	School of Botany & Zoology	Australian National University	Australia	PhD	1997	CI
133	Dr	Kerr	Alexander		James Cook University	Australia	PhD		P/doc
134	Prof	Kershaw	A. Peter	Centre for Palynology & Palaeoecology	Monash University	Australia	PhD	1973	CI
135		Kesner	Brian		James Cook University	Australia			PhD student
136		Kononenko	Nina		Australian National University	Australia			PhD student

	Title	Name		Department	Institution	Country	Highest Qual.	Date	MemberType
137		Konow	Nicolai		James Cook University	Australia			PhD student
138	Dr	Kosnick	Matthew		James Cook University	Australia	PhD		P/doc
139	Mr	Klaer	Neil	Division of Marine Research	CSIRO	Australia	M. Appl. Sc.	1999	M
140		Kristensen	Nadiyah		University of Queensland	Australia			PhD student
141		Lada	Hania		Monash University	Australia			PhD student
142	Prof	Ladiges	Pauline	School of Botany	University of Melbourne	Australia	PhD	1975	CI
143	Dr	Lambkin	Christine	Australian National Insect Collection	CSIRO	Australia			P/doc
144		Lancaster	Melanie		La Trobe University	Australia			PhD student
145		Langkilde	Tracey		University of Sydney	Australia			PhD student
146	Dr	LaSalle	John	Australian National Insect Collection	CSIRO	Australia	PhD	1984	M
147		Leahy	Paul		Monash University	Australia			PhD student
148	Dr	Lee	Michael	School of Earth & Environmental Sciences	University of Adelaide	Australia	PhD	1995	CI
149	Prof	Li	Qianyu	School of Ocean & Earth Sciences	Tongji University	China	PhD	1991	M
150	Dr	Lilley	Ian	Aboriginal and Torres Strait Islander Studies Unit	University of Queensland	Australia	PhD	1987	CI
151	Assoc Prof	Lockhart	Peter	Allan Wilson Centre	Massey University	New Zealand	PhD	1990	CI
152	Prof	Lowe	Andrew	School of Earth & Environmental Sciences	University of Adelaide	Australia	PhD		M
153		Lukoschek	Vimoksalehi		James Cook University	Australia			PhD student
154	Dr	Luly	Jon		James Cook University	Australia	PhD		M
155	Dr	Lydon	Jane	Centre for Australian Indigenous Studies	Monash University	Australia	PhD	2001	M
156	Prof	Lynch	Amanda	School of Geography & Environmental Science	Monash University	Australia	PhD	1993	M
157	Dr	MacDonald	David	National Ecological Sustainable Development Research Group	CSIRO	Australia	PhD	1987	M
158		Macgregor	Angus		University of Adelaide	Australia			PhD student
159	Dr	Mackenzie	Jason		University of California	USA	PhD		P/doc
160		MacLeish	Michael		Flinders University	Australia			PhD student
161	Dr	Macphail	Michael	RSPAS	Australian National University	Australia	PhD		M

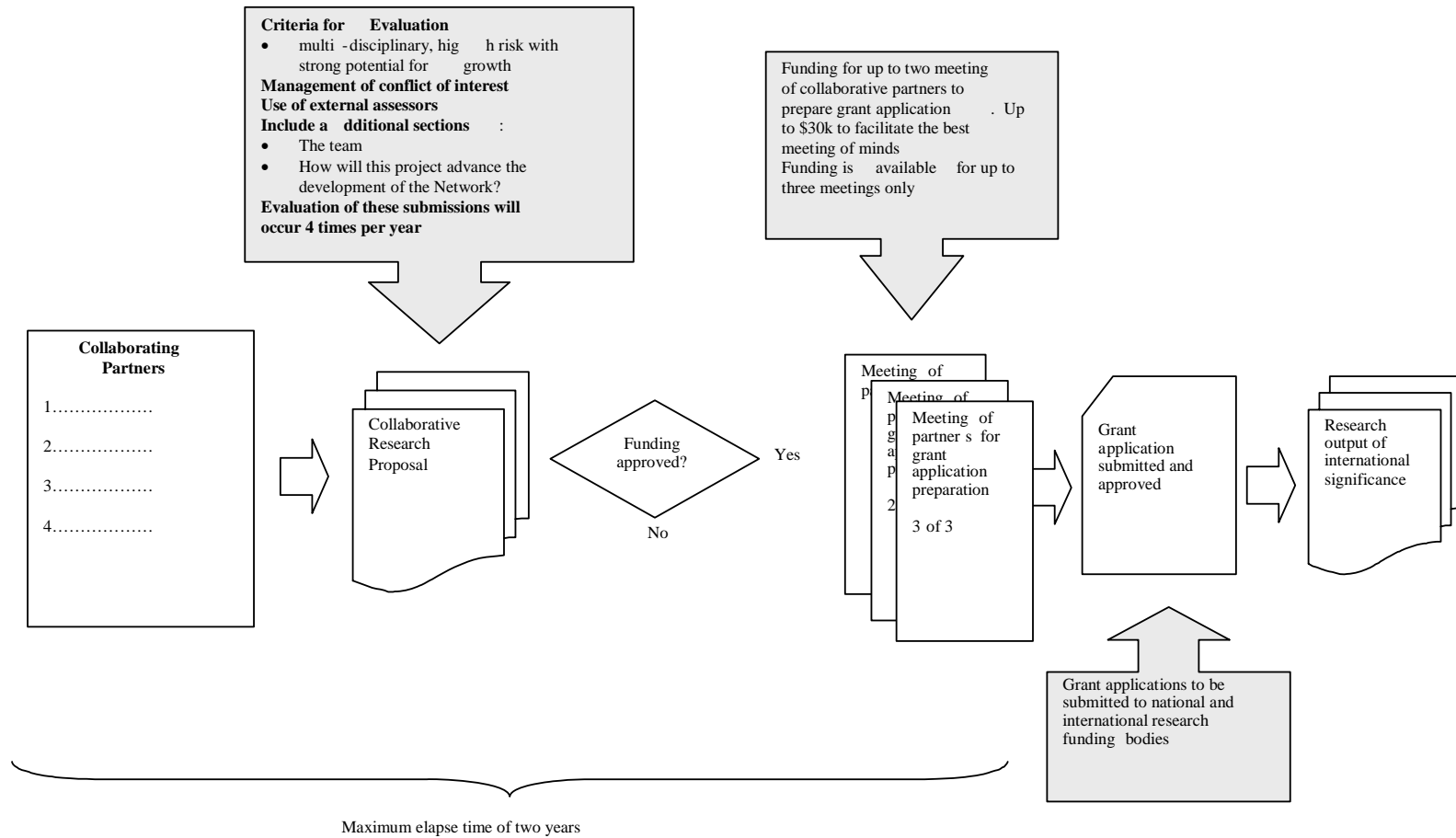
	Title	Name		Department	Institution	Country	Highest Qual.	Date	MemberType
162		Madin	Joshua		James Cook University	Australia			PhD student
163	Dr	Masello	Juan		University of Bristol	England	PhD		P/doc
164		Martin	Tara		University of Queensland	Australia			PhD student
165	Dr	McGowran	Brian	School of Earth & Environmental Science	University of Adelaide	Australia	PhD	1963	M
166	Dr	McKinnon	Gay	School of Plant Science	University of Tasmania	Australia			P/doc
167		Mcleod	Alex		Monash University	Australia			PhD student
168	Dr	McNiven	Ian	School of Geography & Environmental Science	Monash University	Australia	PhD	1991	M
169		Mcveigh	Craig		University of Adelaide	Australia			PhD student
170		Menke	Norbert		University of Queensland	Australia			PhD student
171	Prof	Midgley	Jeremy	Department of Botany	University of Cape Town	South Africa	PhD	1986	M
172	Prof	Miller	Gifford	Centre for Geochronological Research	University of Colorado	USA	PhD	1975	CI
173	Mrs	Mohamed	Sapura						PhD student
174		Mitrovski	Paul		La Trobe University	Australia			PhD student
175		Mokany	Alison		Australian National University	Australia			PhD student
176	Dr	Mooney	Scott	School of Biological, Earth & Environmental Sciences	University of NSW	Australia	PhD		M
177		Morgan	Matthew		Australian National University	Australia			PhD student
178	Prof	Moritz	Craig	Department of Integrative Biology	University of California at Berkeley	USA	PhD	1985	CI
179		Moretti	Ben		University of Adelaide	Australia			PhD student
180		Moulds	Tim		University of Adelaide	Australia			PhD student
181		Moussalii	Adnan		University of Queensland	Australia			PhD student
182		Muirhead	Kate		University of Adelaide	Australia			PhD student
183	Dr	Munday	Phil		James Cook University	Australia	PhD		P/doc
184	Dr	Murphy	Nic	School of Earth & Environmental Sciences	University of Adelaide	Australia	PhD		P/doc
185	Prof	Murray	Tim	Archaeology Program	La Trobe University	Australia			M
186		Nelson	Isobel		University of Bristol	England			PhD student
187	Dr	Nicholls	Neville	Bureau of Meteorology Research Centre	Bureau of Meteorology	Australia	PhD	1983	CI
188		Nicholson	Emily		University of Queensland	Australia			PhD student
189		Nipperess	David		Macquarie University	Australia			PhD student
190		Ottewell	Kym		University of Adelaide	Australia			PhD student

	Title	Name		Department	Institution	Country	Highest Qual.	Date	MemberType
191		Pantuis	Frances		University of Queensland	Australia			PhD student
192	Dr	Park	Yung Chul		Flinders University	Australia	PhD		P/doc
193		Parr	Jeff		Southern Cross University	Australia			PhD student
194		Paull	Cate		University of Adelaide	Australia			PhD student
195		Paull	Rosemary		University of Adelaide	Australia			PhD student
196		Pavlova	Alexandra		Monash University	Australia	PhD		PhD student
197	Dr	Pearson	Stuart	Geography & Environmental Science	University of Newcastle	Australia			M
198		Phillips	Ben		University of Sydney	Australia			PhD student
199		Piggott	Maxine		Monash University	Australia			PhD student
200		Piromvagorn	Srisakul		James Cook University	Australia			PhD student
201		Porch	Nick		Monash University	Australia			PhD student
202	Prof	Possingham	Hugh	Departments of Zoology & Mathematics	University of Queensland	Australia	PhD	1987	CI
203	Assoc Prof	Potts	Brad	School of Plant Science	University of Tasmania	Australia	PhD	1983	CI
204	Prof	Powell	Wayne	School of Agriculture & Wine	University of Adelaide	Australia	PhD	1985	M
205	Dr	Pratchett	Morgan		James Cook University	Australia	PhD		P/doc
206	Prof	Prescott	John	Physics Department	University of Adelaide	Australia	PhD	1969	M
207		Quinn	Alex		University of Canberra	Australia			PhD student
208		Raadik	Tarmo		University of Canberra	Australia			PhD student
209	Prof	Ranganathan	Shoba	Biotechnology Research Institute	Macquarie University	Australia	PhD	1983	M
210		Rath	Pip		University of Sydney	Australia			PhD student
211		Read	Charmaine		James Cook University	Australia			PhD student
212	Assoc Prof	Read	Jennifer	School of Biological Sciences	Monash University	Australia	PhD		M
213		Rhodes	Jonathan		University of Queensland	Australia			PhD student
214	Dr	Rich	Tom	Vertebrate Palaeontology	Museum Victoria	Australia	PhD	1973	M
215		Ritchie	Euan		James Cook University	Australia			PhD student
216	Assoc Prof	Roberts	Richard	School of Earth & Environmental Sciences	University of Wollongong	Australia	PhD	1991	CI
217	Dr	Rouse	Gregory	Marine Invertebrates Section	South Australian Museum	Australia	PhD	1991	CI
218		Rowe	Cassandra		Monash University	Australia			PhD student
219		Rule	Susan		Monash University	Australia			PhD student
220	Dr	Runciman	David		La Trobe University	Australia	PhD		P/doc

	Title	Name		Department	Institution	Country	Highest Qual.	Date	MemberType
221		Sands	Chester		La Trobe University	Australia			PhD student
222		Schmuki	Christina		La Trobe University	Australia			PhD student
223	Assoc Prof	Schwarz	Michael	School of Biological Sciences	Flinders University	Australia	PhD	1987	M
224		Sharp	Hayley		Australian National University	Australia			PhD student
225	Prof	Shine	Rick	School of Biological Sciences	University of Sydney	Australia	DSc	1989	CI
226	Dr	Silberbauer	Letitia		Macquarie University	Australia	PhD		P/doc
227		Simpkins	Scott		Flinders University	Australia			PhD student
228		Skinner	Adam		University of Adelaide	Australia			PhD student
229	Prof	Spriggs	Matthew	School of Archaeology & Anthropology	Australian National University	Australia	PhD	1981	CI
230		Slack	Michael		University of Sydney	Australia			PhD student
231		Smith	Peter		Macquarie University	Australia			PhD student
232		Smith	Warwick		Australian National University	Australia			PhD student
233		Sniderman	J		Monash University	Australia			PhD student
234		Stamati	Konstantina		University of Dundee	Scotland			PhD student
235		Stapley	Jessica		Australian National University	Australia			PhD student
236	Dr	Steane	Dorothy	School of Plant Science	University of Tasmania	Australia	PhD		M
237		Stevens	Nick		University of Adelaide	Australia			PhD student
238		Stevens	Tanya		University of Wollongong	Australia			PhD student
239	Dr	Stow	Adam		Macquarie University	Australia	PhD		P/doc
240	Dr	Sunnucks	Paul	Department of Genetics	La Trobe University	Australia	PhD	1995	CI
241	Dr	Symonds	Matthew		James Cook University	Australia	PhD		P/doc
242	Dr	Taylor	Andrea	School of Biological Sciences	Monash University	Australia	PhD	1996	CI
243		Taylor	Duncan		Flinders University	Australia			PhD student
244	Dr	Tibby	John	School of Earth & Environmental Sciences	University of Adelaide	Australia			P/doc
245		Tierney	Simon		Flinders University	Australia			PhD student
246	Dr	Torrence	Robin	Anthropology	Australian Museum	Australia	PhD	1981	CI
247		Tsitsilas	Angelos		La Trobe University	Australia			PhD student
248	Dr	Turney	Christian	School of Earth & Environmental Sciences	University of Wollongong	Australia	PhD	1998	CI
249	Dr	Uller	Tobias		University of Wollongong	Australia			P/doc
250		Ulm	Sean		University of Queensland	Australia			PhD student
251		Valentine	Leonie		James Cook University	Australia			PhD student

	Title	Name		Department	Institution	Country	Highest Qual.	Date	MemberType
252	Dr	Venables	Bill	Mathematics & Information Sciences	CSIRO	Australia	PhD	1973	M
253	Dr	Veth	Peter		AIATSIS	Australia			M
254		Vytopil	Elaine		University of Adelaide	Australia			PhD student
255	Ms	Wahlquist	Asa	Rural Writer	The Australian Newspaper	Australia	BAGSc	1987	M
256		Walker	Faith		Monash University	Australia			PhD student
257	Dr	Walker-Smith	Genefer		Tasmanian Museum & Art Gallery	Australia			P/doc
258		Wall	Michael		University of Sydney	Australia			PhD student
259		Warner	Daniel		University of Sydney	Australia			PhD student
260	Dr	Webb	Jonathon		University of Sydney	Australia			P/doc
261	Dr	Weeks	Andrew		La Trobe University	Australia			P/doc
262		Wells	Jessie		University of Queensland	Australia			PhD student
263	Dr	West	Judy	Australian National Herbarium	CSIRO Plant Industries	Australia	PhD	1981	CI
264	Prof	Westoby	Mark	Department of Biological Sciences	Macquarie University	Australia	PhD	1973	CI
265	Prof	Whelan	Rob	Faculty of Science	University of Wollongong	Australia	PhD	1978	CI
266		White	Christopher		Monash University	Australia			PhD student
267	Dr	Wilcox	Chris		University of Queensland	Australia	PhD		M
268	Dr	Willerslev	Eske		University of Oxford	England			
269	Prof	Williams	Martin	Geographical & Environmental Studies	University of Adelaide	Australia	DSc	1996	CI
270		Williams	Yvette		James Cook University	Australia			PhD student
271	Dr	Wills	Karen		University of Tasmania	Australia	PhD		P/doc
272		Wilson	Nerida		University of Queensland	Australia			PhD student
273		Wilson-Wilde	Linzi		University of Canberra	Australia			PhD student
274	Dr	Woodhead	Mary		SCRI	Scotland	PhD		P/doc
275	Dr	Wormington	Kevin	Centre for Environmental Management	Central Queensland University	Australia	PhD	2003	M
276		Worth	James		University of Tasmania	Australia			PhD student
277	Dr	Yeates	David	Australian National Insect Collection	CSIRO	Australia	PhD	1988	CI
278		Zammit	John		Flinders University	Australia			PhD student
279		Zwick	Andreas		Australian National University	Australia			PhD student

Attachment 2 – Internal Process to Facilitate New Research Initiatives Across the Network



Attachment 3 - Names of participants in funded project working groups

1 Project Title: Coping with Change: Resilience of Marine Social-Ecological Systems			
	Participant	Institution	Expertise
	Terry Hughes (CI)	James Cook University	Macroecology
	Carl Folke,	Stockholm University	Ecological economics
	Brian Walker	CSIRO Sustainable Ecosystems	Sustainable ecosystems
	Tim Lynham	CSIRO Healthy Country	Landscape ecology
	Andrew Baird	James Cook University	Coral reef biology
	Lance Gunderson	Emory University, Atlanta	Social science, property rights
	Fikret Berkes	University of Manitoba	Adaptive governance
	Ariella Helfgott	University of Adelaide	Mathematical modelling
	Heidi Schuttenberg	GBRMPA	Resilience in coral reef systems
	Per Olsson	Stockholm University	Social-ecological systems
	John Norberg	Beijer Institute, Sweden	Systems ecology, modelling
	Marten Scheffer	Wageningen University, Holland	Aquatic ecology, water management
	Bob Steneck,	University of Maine	Regime shifts
	Jim Wilson	University of Maine	Fisheries economist
2 Project Title: Recent Human Impact on Australian Ecosystems			
	Participant	Institution	Expertise
	Peter Gell (CI)	University of Adelaide	Lake palaeolimnology, diatoms
	Scott Mooney	University of New South Wales	Charcoal & fire history, palynology
	Henk Heijnis	ANSTO	Pb/Cs dating, President of AQUA
	Tim Denham	Monash University6	Archaeology, ethnohistory
	Cameron Barr	University of Adelaide	Recent climate change
	Tim Barrows	ANU	Australian Quaternary data base
	Rick Battarbee	University College London, UK	Director of Focus V LIMPACS
	Sophie Bickford	CSIRO Plant Industry	GIS, palynology, myrtaceae
	John Dearing	University of Liverpool, UK	Leader of Focus V, Leader of HITE
	John Dodson	Brunel University, UK	Palynology, rate of change analysis
	Jennie Fluin	University of Adelaide	Murray River palaeolimnology
	Stephen Gale	Sydney University	Sedimentology
	Adriana Garcia	University of Wollongong	Forams, charophytes
	Simon Haberle	ANU	Palynology, climate
	Gary Hancock	CSIRO Land & Water	Pb/Cs dating
	Kate Harle	CSIRO Sustainable Ecosystems	Palynology, climate
	Geoff Hope	ANU	Peatland palynology, fire
	Peter Kershaw	Monash University	Palynology, fire history
	Ralph Ogden	University of Canberra	Fossil macroinvertebrates
	Nick Porch	Monash University	Macrophyte fossils, coleoptera
	Janet Pritchard	Arthur Rylah Institute, DSE	Fish otoliths
	Lynda Radke	Geoscience Australia	Ostracods; ionic chemistry, estuaries
	Michael Reid	University of Canberra	Billabong palaeolimnology
	Katherine Taffs	Southern Cross University	Estuary paleolimnology
	Ian Thomas	University of Melbourne	Palynology, charcoal
	John Tibby	University of Adelaide	Statistics, estuary palaeolimnology

3	Project Title: Multidisciplinary Approaches to Key Australian Biodiversity Challenges of 2010 and beyond		
	Participant	Institution	Expertise
	Dan Faith (CI)	Australian Museum	Biodiversity, sustainability
	Simon Ferrier	Dept Environment and Conservation	Biodiversity, Modelling, GIS, planning
	H. Cogger	Australian Museum	Herpetology
	Mike Crisp	ANU	Plant biogeography, systematics
	Roz Crozier	James Cook University	Genetics, phylogeny
	David Yeates	CSIRO, Insects	Insect Systematics, biodiversity
	K. Williams	CSIRO, Geography	Geography, national environmental audit
	Chris Margules	CSIRO, Conservation	Conservation planning
	Craig Moritz	University of California, Berkeley	Animal phylogeography
	Margaret Byrne	CALM, WA	Plant phylogeography
	Gary Richards	Australian Greenhouse Office	Databases and modelling for land-use change and carbon storage
	G. Wilson	Australian Museum	Marine biodiversity
	Barry Brook	Charles Darwin University	Biodiversity and extinction research
	S. Cameron	University of California, Berkeley	Climate change
	J. Trueman	ANU	Bioinformatics, systematics
	Stuart Pearson	Dept Land & Water	Land and water planning/management
4	Project Title: Plant exploitation and domestication east of the Wallace Line: Movement, manipulation and management of plant biodiversity		
	Participant	Institution	Expertise
	Tim Denham (CI)	School of Geography & Environmental. Science, Monash University,	Archaeology, ethnohistory
	Mike Bourke	ANU	Agronomy
	David Bowman	Charles Darwin University	Ecology/Biodiversity
	Javier Caballero	Universidad Nacional Autonoma de Mexico	Ethnobiology
	Peter Matthews	National Musuem of Ethnology, Osaka	Food plant ecology, aroids
	Richard Cosgrove	La Trobe University	Archaeology, archaeobotany
	Lyn Craven	Australian national Herbarium	Ecology, taxonomy
	Jeff Daniells	Queensland Dept Primary Industry	Agronomy, bananas
	Bruno David	Monash University	Australian archaeology
	Tim Denham	Monash University	Archaeology, palaeoagronomy
	Andrew Fairbairn	ANU	Archaeobotany
	Beth Gott	University of Melbourne	Ethnobotany
	Brian Gunn	CSIRO Canberra	Ethnobotany
	Simon Haberle	ANU	Palaeoecology
	Martin Jones	Cambridge University	Archaeology, botany, ancient DNA
	Vincent Lebot	CIRAD, Vanuatu	Genetics, food plants
	Carol Lentfer	University of Queensland	Archaeobotany, palaeoecology
	Dolores Piperno	Smithsonian Tropical Research Institute, Panama	Archaeobotany, palaeoecology
	Matiu Prebble	ANU	Archaeobotan, palaeoecology
	Sue Rule	Monash University	Archaeobotan, palaeoecology
	Robin Torrence	Australian Museum	Archaeology

5	Project Title: Land-Ocean correlation of long Quaternary records from the southern hemisphere on orbital and sub-orbital timescales		
	Participant	Institution	Expertise
	Peter Kershaw (CI)	Monash University	Palaeoecology, palaeoclimatology
	Tim Barrows	ANU	Marine isotope stratigraphy and palaeoclimatology, dating
	Chris Turney	University of Wollongong	Carbon isotopes, dating
	Paul Hesse	Macquarie University	Sedimentology, dust
	Raphael Wust	James Cook University	Geochemistry
	Will Howard	University of Tasmania	Marine palaeontology and palaeoclimatology
	Manda Lynch	Monash University	Climate modelling
	Martin Williams	University of Adelaide	Sedimentology and stratigraphy
	Jim Bowler	Melbourne University	Sedimentology and stratigraphy
	John McGee	ANU	Arid land sedimentology
	Sander van der Kaars	Monash University	Palynology
	Bert Roberts	University of Wollongong	OSL dating
	Patrick De Deckker	ANU	Marine and freshwater palaeontology
	Steve Clemens	Brown University	Marine palaeontology, spectral analysis
	Nick Porch	Monash University	Fossil beetles, palaeoclimatology
	Simon Haberle	ANU	Palynology
	Kale Sniderman	Monash University	Palynology
	Sarah Davies	Queens University, Belfast	Tephrochronology
	Kate Harle	CSIRO Canberra	Palynology
	Giff Miller	University of Colorado	AAR, climate modelling
	Brad Opdyke	ANU	Marine isotope stratigraphy
	Richard Wardle	Monash University	Climate modelling
6	Project Title: An Ecological History of Australia's Temperate Marine Environments: Accounting for the Shifting Baseline Syndrome		
	Participant	Institution	Expertise
	Sean Connell (CI)	University of Adelaide	Ecology, quantitative analytical techniques
	Bronwyn Gillanders (CI)	University of Adelaide	Ecology
	Simon Hart (CI)	University of Adelaide	Ecology
	Tony Pitcher	University of British Columbia	Palaeoecology, archaeology, ecological history
	Robert Steneck	University of Maine	Palaeoecology, archaeology, ecological history
	Alan Chivas	University of Wollongong	Palaeoecology
	Peter Gell	University of Adelaide	Palaeoecology
	David Neil	University of Queensland	Palaeoecology, ecological history
	Val Attenbrow	Australian Museum	Archaeology
	Don Garden	University of Melbourne	Archaeology, ecological history
	Neil Klaer	CSIRO Marine Research	Ecological history, ecology
	Rod Connolly	Griffith University	Ecology
	Gary Kendrick	University of Western Australia	Ecology
	Craig Johnson	University of Tasmania	Ecology
	Tim Ward	SA Research & Development Institute	Ecology
	Roger Bradbury	ANU	Quantitative analytical techniques

Attachment 4 - Performance measures

	Quantitative Measures	Performance
1	Number of active participants	279
2	Number of ECRs directly funded*	9
3	Number of proposals funded	13
4.	Number of workshops, conferences and seminars conducted	2
5.	Number of international exchanges, eg Australians supported for travel overseas of international researchers to Australia	2
6.	Number of outreach activities	0
7.	Number of publications	0
8.	Number of institutions receiving funding	9
9.	Website hits, articles downloaded	9068
10.	Number of national competitive grant applications+	1
11.	How Networks between researchers has been strengthened using web-based and other technologies^	-

* Much larger number of ECRs deriving benefit through participation in projects

+ CERF Research Hub proposal

^ New approach that will require time and possibly training

	Qualitative Measures	Performance
1.	How is research supported by the Network different to what might have occurred without the network	To be established
2.	Governance arrangements	Management Committee (six members (all CIs)) with series of working groups for specific research projects, each headed by CI
3.	Research building capacity	To be developed
4.	Breadth of Network	International
5.	Increased collaboration	Project working groups are serving to develop multidisciplinary research teams
6.	Additional funding generated through activities of Network	None
7.	How has the network added value	To be established
8.	Surveys of members	None
9.	Collaboration with other Networks in Australia	Some preliminary contact with ARC-NZ Research Network for Vegetation Function
10.	Linkages with international research Networks	To be established
11.	Development of tools, software, databases	None