

The Fenner Conference, Canberra, 11-12 March 2009

Summary of Event Feedback

This document contains an analysis of feedback from participants at the Fenner Conference held in Canberra from 11 to 12 March 2009. Participants were asked to collect a feedback form containing eight questions. Types of feedback requested fall into several categories: feedback on the conference benefits, structure an organization; feedback on the presentations and which of these were perceived to be of most use; and feedback on data, models, tools and knowledge that were seen to be useful and barriers to its adoption. This document summarises feedback under each of these categories.

Where responses have been analysed to differentiate the type of participants, the following codes are used:

CG – Commonwealth Government agency

SG – State Government Agency

SGR – State Government Researcher

LG – Local Government

RB – Regional Bodies

R – Researcher

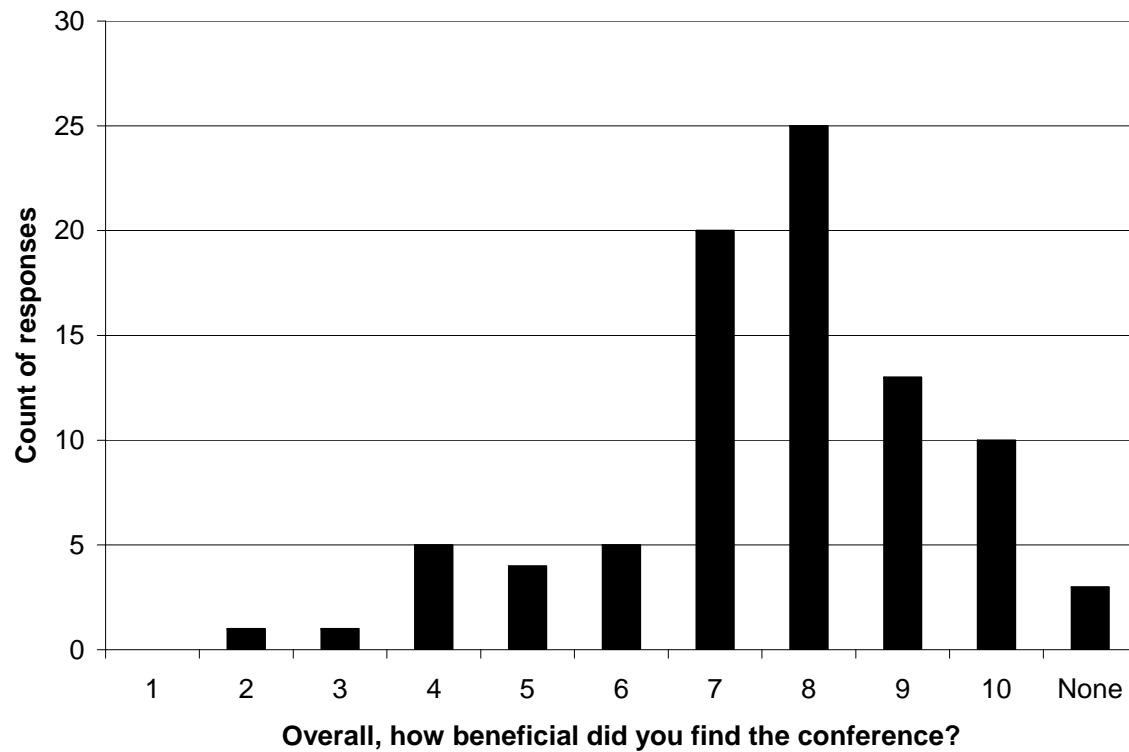
O - Other

FEEDBACK ON THE CONFERENCE BENEFITS, STRUCTURE AND ORGANISATION

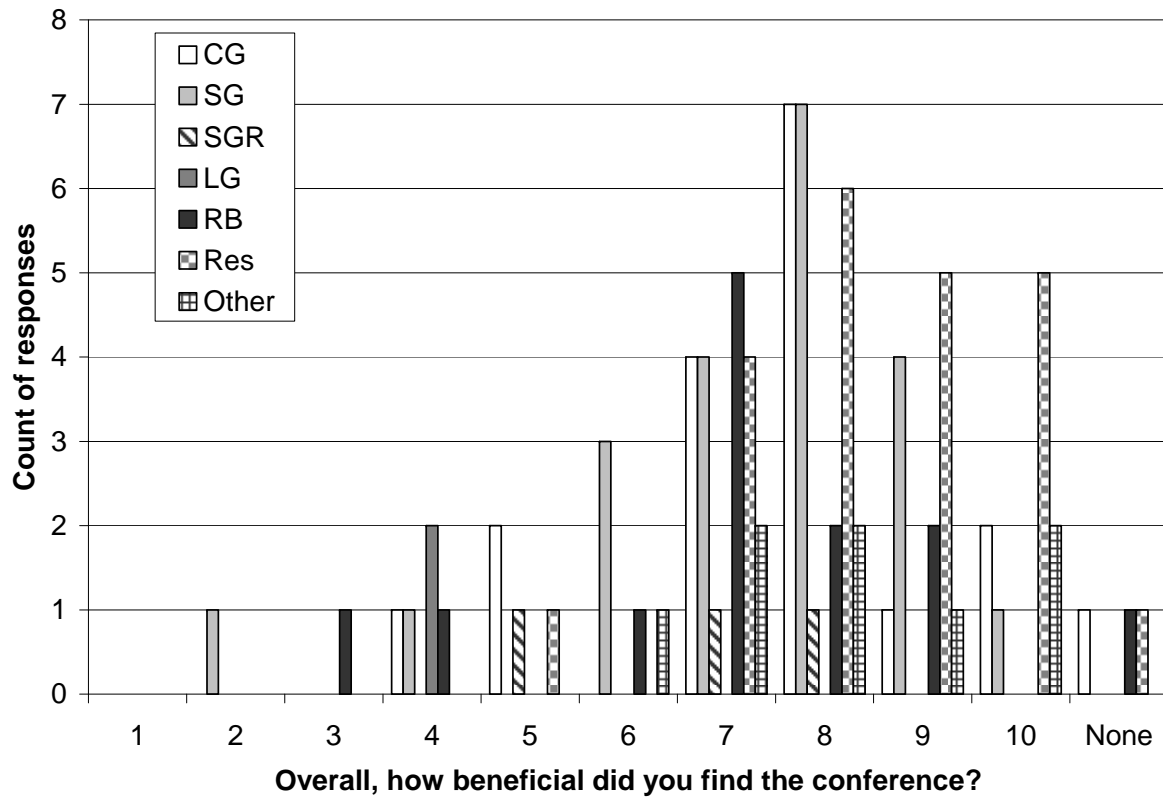
Several questions were asked that allowed participants to provide feedback on the benefits and deficiencies they experienced with regard to the conference. This section summarises the responses received to each of these questions.

Overall, how beneficial did you find the conference?

Participants were asked to rate how beneficial they found the conference on a scale of 1 to 10, with 1 representing “Not at all beneficial” and 10 representing “Highly beneficial”. A summary of the responses across all categories is given below. Note “None” indicates no response was given.



The average response value provided was 7.5 and the median was 8. As the chart shows most respondents gave a value of greater than 7, however responses as low as 2 and 3 were recorded by some participants. The breakdown of these responses by the type of participant is given below.



This figure shows that the low scores (2 and 3) were provided by representatives of State Government organizations and Regional Bodies. Researchers provided mostly high scores (7, to 10) as did Commonwealth and State Government representatives. The average score by participant type is given in the table below.

| | Average score |
|-------|---------------|
| CG | 7.5 |
| SG | 7.3 |
| SGR | 6.7 |
| LG | 4.0 |
| RB | 6.8 |
| Res | 8.4 |
| Other | 8.1 |

The lowest average scores were provided by Local Government representatives, State Government researchers and representatives of Regional bodies. The highest scores were provided by Researchers and “Others”.

Detailed feedback on usefulness of conference

Participants were also asked to provide detailed comments on why they had provided this rating to the conference. These comments have been analysed for theme areas in terms of positive and negative comments. A summary of this analysis is below. Specific examples of comments under each theme have also been identified. Theme areas under positive and negative comment areas have been ranked so that those mentioned most often are listed first.

| Themes | Number of responses | Examples of detailed comments |
|----------------------------------|---------------------|---|
| <i>Positive comments</i> | | |
| Networking opportunity | 22 | Meeting people, both new people and refreshing contacts |
| Thought provoking | 20 | chance to consider issues in greater depth and from different perspectives. |
| Coverage | 13 | Good coverage of topics. |
| Information on models | 10 | Extremely useful for re-invigoration and updating knowledge of approaches and tools |
| Good presentations | 9 | Good series of speakers. |
| Links between science and policy | 9 | Good to get some insight on relationships between science and policy |
| Assist with investment decisions | 8 | Timely, practical applications for many assist in decision making. |
| Information on Hubs | 4 | Good to hear what is being done by both AEDA and LL. |

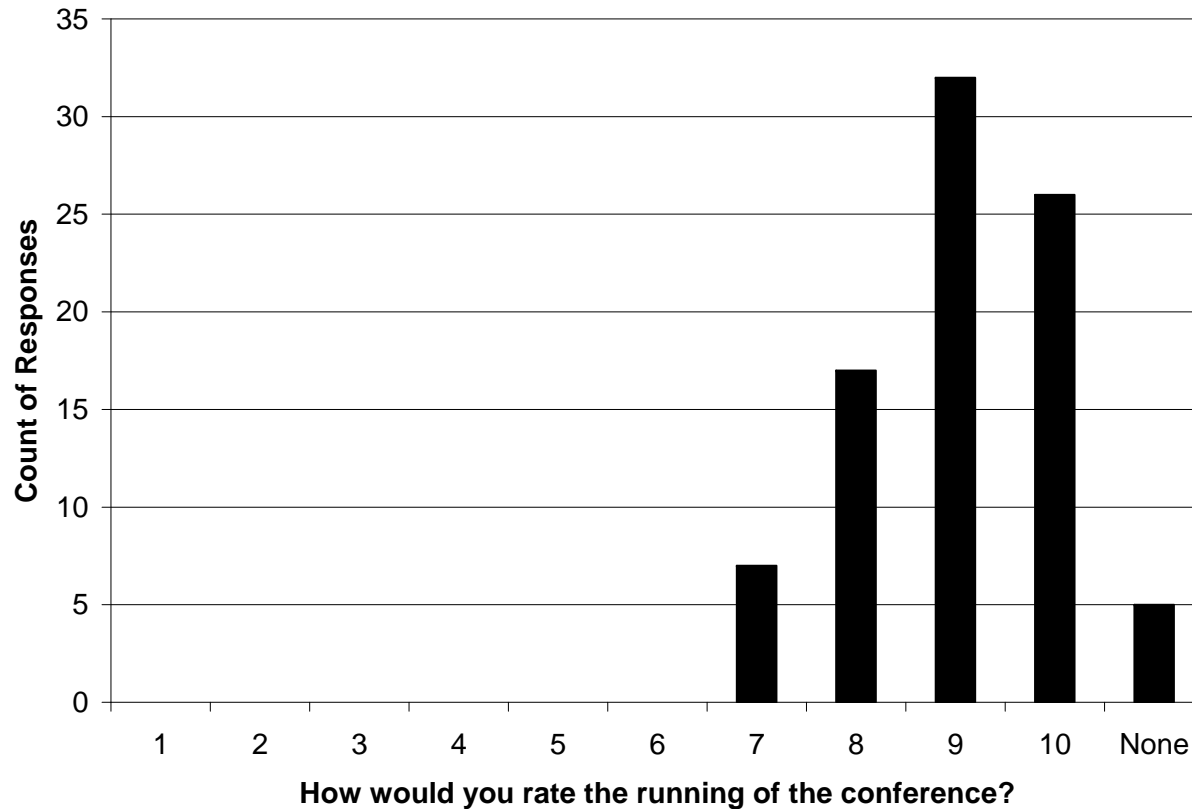
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| Representation | 4 | A very good mix of people in the audience. |
| Applied focus | 3 | Great to see a conference on applied science! |
| Information on monitoring | 2 | Learnt of a range of models and strategies to assist in monitoring and decision making. |
| Opportunity to present | 1 | Good to get message out |
| Relevance | 1 | Succinct, diverse, scope, relevant. |
| Sharing lessons | 1 | ... sharing lessons learned, |
| <i>Negative comments</i> | | |
| Lack of big picture | 8 | ... somewhat limited in application to real world NRM management and very little about science input into policy, routes of input. Some presentations very specific and limited big-picture analysis/synthesis of real relationships between science, policy and management. |
| Lack specific relevance | 8 | Very little agricultural/primary production relevance beyond some contexting of land use in session 6. |
| Lack of innovation | 4 | Some reworked talks from the usual suspects. |
| Lack of policy presenters | 2 | Although many policy makers attended there were few presentations from this point of view. |
| Lack reality check of what's possible | 2 | There was no reality check on what the barriers to adoption or of DSS or monitoring etc are at management level. |
| Too technical language | 2 | Some of the presentations were too technical for my needs |
| Lack diversity of speaker representation | 1 | ... would have liked to see greater speaker diversity from other institutions around Australia. |
| Lack logical structure | 1 | There wasn't a strong logical structure to the conference. |
| Lack of workshop organisation | 1 | Workshops could have been better focused. |
| Little recognition of people | 1 | There was also relatively little recognition of people as actors in the landscape. |

The main positive themes identified were the networking opportunity provided by the conference, and the chance to think about issues. Many people also indicated that the conference provided useful information linking science to policy and that information provided would help to improve decision making. The main negative themes identified were the lack of a big picture emerging from the conference and

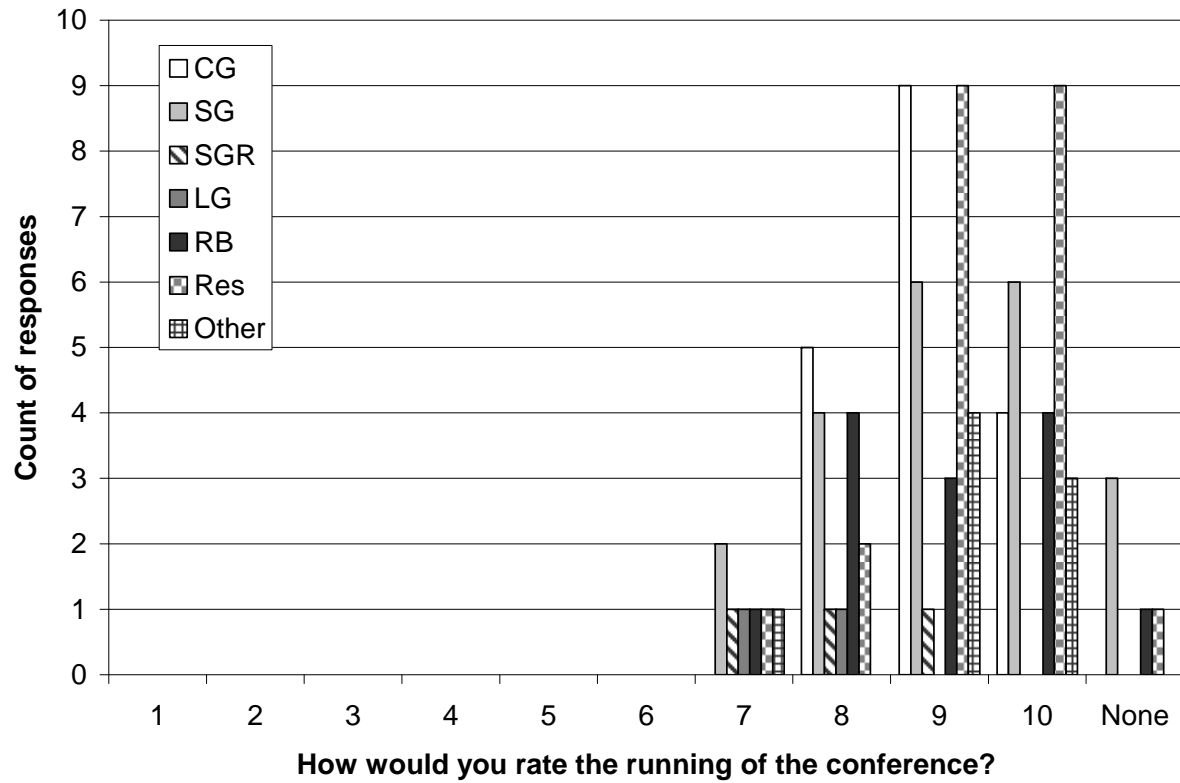
specific criticisms about particular areas of concern that were not addressed by the conference (for example marine research or agricultural and primary production relevance).

How would you rate the running of the conference?

Participants were asked to rate the running of the conference using a scale of 1 to 10 (poor to excellent). A summary of all responses to this question is provided below.



This figure shows all respondents who provided a score rated the running of the conference very highly, with scores from 7 to 10 provided. Five respondents did not provide a score. The average score provided was 8.9 and the median score was 9. A detailed breakdown of response by participant type is provided below.



Overall it appears that researchers rated the conference running more highly than Commonwealth Agency staff. The average values by participant type are given below. This shows that the differences are not great between groups with high average scores given by all groups. The lowest average scores are provided by Local Government staff (7.5) and State Government Researchers (8.0).

| | Average score |
|-------|---------------|
| CG | 8.9 |
| SG | 8.9 |
| SGR | 8.0 |
| LG | 7.5 |
| RB | 8.8 |
| Res | 9.2 |
| Other | 9.1 |

Other comments on the conference

Participants were also asked to provide any other comments not covered by other questions in the feedback form. Most participants used this opportunity to comment on the structure, format or organization of the conference. Responses to this question are summarized below.

Feedback fell into two areas: criticisms and suggestions for improvement; and, compliments. The theme areas of each comment have been analysed and ranked according to how frequently these occurred amongst responses.

| <i>Criticisms and suggestions</i> | Number of times raised |
|--|------------------------|
| Lack of policy/implementation people presenting | 13 |
| Parallel sessions poorly organised | 12 |
| Fewer presentations/more discussion and question time | 8 |
| Misunderstood/unaware of conference arrangements | 5 |
| Access to talks/papers | 4 |
| Lack of integration | 4 |
| Too many unsubstantiated platitudes | 3 |
| Didn't relate to on-ground/management experience | 2 |
| Lack of specific presenters | 2 |
| Little value in 'project' based talks | 2 |
| Need way of navigating various tools | 2 |
| Talks should be longer/more detailed | 2 |
| Too much detail/ too technical | 2 |
| Too much focus on products | 2 |
| Abstracts could be improved | 1 |
| Add marine presentations | 1 |
| Better introduction to CERF Hubs required | 1 |
| Conference structure impeded 2nd objective | 1 |
| Contact details not provided | 1 |
| Failed to address how scientific info can be used in decision making process | 1 |
| Good to have guest speaker at conference dinner | 1 |
| Lack links from catchment to coast | 1 |
| Lack of clear messages | 1 |
| Lack of solutions presented | 1 |
| Late session not productive | 1 |
| Limited usefulness of framing papers | 1 |

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| Management left out of loop with science and policy makers | 1 |
| Need to engage upwards above policy practioners | 1 |
| Overview of types of decisions required | 1 |
| Poor catering | 1 |
| Poor parking arrangements | 1 |
| Prefer more talks not AEDA and LL | 1 |
| Seating poor | 1 |
| Sexist comments in talks | 1 |
| Specific talk poor | 1 |
| Start too early | 1 |
| Too little analysis of where things work | 1 |
| Too much focus on LL structure | 1 |

As can be seen here the most common criticisms of the conference concerned the lack of presentations by people responsible for creating policy or implementing it on the ground and the organization of the parallel sessions which participants said lacked structure and focus and could have been better facilitated. Several people also suggested less talks and more time for questions and discussion would have been beneficial. By contrast one participant complimented organizers on the short talks and indicated this was a good feature of the conference (see below). A number of problems were also encountered with basic registration and organizational arrangements.

| <i>Compliments</i> | <i>Number of times raised</i> |
|----------------------------------|-------------------------------|
| Great/good conference | 4 |
| Good mix of people | 3 |
| Good venue | 3 |
| Stimulated thinking | 3 |
| Excellent presentations | 2 |
| Excellent proceedings | 2 |
| Good to do it again | 2 |
| Diverse range of speakers | 1 |
| Excellent catering | 1 |
| Great learning experience | 1 |
| Presentation linking good | 1 |
| Short presentations appreciated | 1 |
| Timeliness of presentations good | 1 |
| Useful | 1 |
| Well focused | 1 |

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| Well run | 1 |
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Many participants also provided additional compliments on the running of the conference, with general comments, such as “Great conference” as well as specific compliments with regards to things such as the mix of people present, quality of presentations and proceedings and venue. Two participants provided feedback recommending the conference is run again in future years.

MOST USEFUL PRESENTATIONS

This section summarises feedback from participants at the Fenner conference on the presentations they found most useful. In reading this feedback you should be mindful that:

- not all feedback forms mentioned specific presenters. Feedback from these forms is analysed separately.
- not all gave participants gave a full set of four options with many forms providing no response to this question.
- some participants gave more than the four options provided for in the form.

The comments are summarized in descending order of the number of nominations given for the presenter (ie. most to least popular). The total number of nominations is given as well as the breakdown of type of participant who provided the nomination in each case. Specific comments have also been provided for each presenter. Not all specific comments have been included in the table. The table summarises comments of particular interest.

| Presentation | Total | C G | SG | LG | RB | SG R | R | O | Comments |
|------------------|-------|--------|----|----|----|---------|---|---|--|
| Bob Pressey | 23 | 6 | 5 | | 2 | | 5 | 5 | <p>“Clearly stated message that is widely applicable. Clear, slow speaker”.</p> <p>“Great summary of a situation which needs to be more widely appreciated and addressed”</p> <p>“Help build the case for better measures that really tell the story”.</p> <p>“Articulated measures (and mismeasures) that I had been thinking about. And I liked his presentation style.”</p> <p>“Raised clear, practical problem that needs a change to current policy, based on scientific evidence”.</p> |
| John Whittington | 22 | 4 | 5 | 1 | 1 | 2 | 8 | 1 | <p>“Scientists need to understand how best to influence policy makers and John communicated this well”.</p> <p>“Clear speaker, interesting ideas, forthright advice and all without powerpoint”</p> <p>“Blunt and true”</p> <p>“Great policy side perspective. Good speaker.”</p> <p>“Provocative, challenging – opened the space for more holistic thinking</p> |

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| | | | | | | | | | on development of public policy – not just about science” “Clear messages and some useful food for thought” |
| Marc Mangal | 21 | 6 | 8 | | 2 | 1 | 3 | 1 | “Crisp, inspiring, useful, great key note address”. “Well organized presentation” “Embraced the consultative and collegiate teamwork required in good policy development”. “well articulated, presented, thought provoking presentation”. “Many good/useful points. Particularly science and values and ‘in teams, diversity trumps ability” “Neat synthesis on scientific/policy roles and process) especially the diagram of advocate/translator/team etc)” |
| Carl Smith | 19 | 5 | 3 | 1 | 2 | 2 | 5 | 1 | “Very applicable and practical examples of application of theory of modeling. Taking the theory out of the lab and applying it to real world NRM problems and finding practical solutions” “Simple, clear and focused message. Could see broader applicability of his approach. |
| David Lindenmayer | 19 | 1 | 6 | | 3 | 1 | 5 | 3 | “Important points about not letting an important concept become a ‘fad’ or buzz word. Well spoken” |
| Jim Nicholls | 19 | 1 | 6 | 2 | | | 8 | 2 | “clear message that is broadly applicable” “Good explanation of concepts, method and practical applications to us”. “He showed that if you ask the right questions then what and how to monitor becomes easy.” “Good points/clarity re: monitoring. Will be able to apply principles.” “Excellent summary of monitoring” |
| Eve McDonald Madden | 17 | 1 | 6 | 2 | 2 | | 3 | 3 | “Good presentation bringing attention to stop-go decisions for monitoring – that sometimes you might decide not to” “Honest and transparent appraisal of the value of monitoring” “Great speaker, very persuasive and thought provoking” “Pragmatism and clarity, somewhat closer to reality than other researchers” “Thought provoking” “Clear, concise example of cost benefit decisions” |
| Phil Gibbons | 17 | 2 | 5 | | 4 | 1 | 3 | 2 | “Challenged the “protect the best” principle” “Challenged my thinking on prioritizing” “different way of presenting options and considering decisions. Will help |

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| | | | | | | | | | me in discussions with Minister and Senior Management” “Clear and practical messages, challenged some current thinking” |
| Peter Cosier | 11 | | 1 | | 3 | | 6 | 1 | “Inspiring” “Addressing major deficiency in capacity and management arrangements for long term monitoring for adaptive management through creation of stable institutional arrangements, backed by legislation and funding.” “Inspiring to hear there are plans afoot to start developing a simple framework that can be developed over time”. “Cool idea” |
| Allan Curtis | 10 | 1 | 6 | | 1 | | 2 | | “Really important to understand landholder beliefs/values and decision processes” “Interesting statistics! Direct link to my work re changing ownership and different attitudes”. |
| Sarah Bekessy | 9 | 5 | | | 1 | | 2 | 1 | “Good integration with policy drivers” “Light, enthusiastic and clear – brilliant presentation style” “Interesting research and real-life” |
| Greg Bourne | 8 | 3 | 2 | | 2 | | 1 | | “Big picture” “Well articulated discussion on trends. Showed that ecological systems are similar to some more widely known and accepted concepts such as business and economic systems”. “Brilliant, strategic real world overview”. |
| Hamish Cresswell | 8 | 3 | 1 | 2 | | | | 2 | “Brilliant research and presentation” Explained case study of how to set up good project design”. |
| Peter Baxter | 7 | | 1 | | | | 5 | 1 | “Cool approach” “Advise on when not to act, and how technology improvement can assist in delivering better outcomes”. “Useful, when to build a model” |
| Anna Roberts | 6 | 1 | 3 | | 1 | | 1 | | “Well presented, and similar lessons to learn from our own work”. |
| John Gibson | 6 | 2 | 1 | | | | 2 | 1 | “I didn’t know anything about estuaries. This presentation was a clear, interesting introduction.” “Nicely combining different elements in his talk: explaining workings and relevance of estuaries, what his project is doing, and how structure they propose links back to monitoring decisions (eg. Appropriate choice of indicators)” |

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| Carmel Pollino | 5 | 1 | 2 | | | | 1 | 1 | “Good overview of complexity versus simplicity and illustration of Bayesian Network”. “Integration and brokering. Our most difficult challenge – very clearly articulated” |
| Hugh Possingham | 5 | 2 | 1 | | 1 | | 1 | | “Great comebacks to nay-sayers” |
| Kerrie Wilson | 5 | 1 | 2 | | | | 1 | 1 | “Real-life example and real-life solutions” |
| Brendan Wintle | 4 | | | | 1 | | | 3 | “Very relevant in terms of CFOC and the relationship of a systems model for fund requirements”. |
| Tony Norton | 4 | 2 | 1 | | | | | 1 | “Clearest presentation overall with big picture of why the work, moving down to applications. |
| Tony Jakeman | 4 | 2 | 1 | | | | 1 | | “Excellent overview of modeling approaches” |
| David Duncan | 3 | 1 | | | | 1 | 1 | | “really interesting and good to know what is going on with native veg on private land” “For being the cutest presenter by a country mile, with a wicked twinkle in his eye to meet the wicked problems of NRM” “An example of targeted research that links well with the information needs of CMAs” |
| Cindy Hauser | 3 | | | | 1 | | 2 | | “This is a great example of decision theory to a complex problem” |
| Charlie Zammit | 2 | 2 | | | | | | | “The art of decision making very good: wasn’t carried through. A difficult discussion but one which is worth persisting with. Useable science also needs to be played out” “The policy maker’s perspective – thankyou!!!” |
| Greg Pinkard | 2 | 1 | 1 | | | | | | |
| Peter Davies | 2 | | | | 1 | 1 | | | “Catchment scale modeling to determine investment priorities – good example and clear requirements to model investment priorities” |
| Simon Jones | 2 | | 2 | | | | | | “Describing the complexity behind the vegetation extent and coordination models that I use every day”. “Presented new technology that shows great promise for improving vegetation condition mapping”. |

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| Ascelin Gordon | 1 | | | | | | 1 | | |
| Peter Cochrane | 1 | 1 | | | | | | | “The policy maker’s perspective – thankyou!!!” |
| Shane Broad | 1 | | | | | | 1 | | “Just an excellent speaker, always concise, informative and perfect pace” |
| Ted Lefroy (summary) | 1 | 1 | | | | | | | |

Other comments (not indicating a specific presenter) are summarized in the following table.

| Type | Comment | Session(s) | Names of presenters involved |
|------------|---|---|---|
| RB | “All Thursday morning. Emphasised the need for diversity of skills and perspectives in decision-making and designing action.” | Environmental decision making The art and science of prioritisation | Marc Mangel, Charlie Zammit, John Whittington, Sarah Bekessy, Allan Curtis Bob Pressey, Anna Roberts, Ascelin Gordon, Kerrie Wilson, Hugh Possingham |
| RB | “Thursday afternoon showed useful tools” | Adaptive management | David Lindenmayer, Brendan Wintle, Phil Gibbons, Peter Baxter, Mick McCarthy |
| CG | “Adaptive management, Systems Thinking” | Adaptive Management | David Lindenmayer, Brendan Wintle, Phil Gibbons, Peter Baxter, Mick McCarthy |
| Researcher | “I found the morning session of day 1 very stimulating especially Marc Mangels talk. Also talks on spatial prioritization as it is relevant to me.” | Environmental decision making ?? Spatial prioritisation | Marc Mangel, Charlie Zammit, John Whittington, Sarah Bekessy, Allan Curtis |
| RB | “(Difficult as already aware of many)...Session 1,2,3 all significant from a Decision making/planning/strategy development processes.” | Environmental decision making The art and science of prioritisation Adaptive Management | Marc Mangel, Charlie Zammit, John Whittington, Sarah Bekessy, Allan Curtis Bob Pressey, Anna Roberts, Ascelin Gordon, Kerrie Wilson, Hugh Possingham David Lindenmayer, Brendan Wintle, Phil Gibbons, Peter Baxter, |

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| | | | Mick McCarthy |
| CG | The opening address and the keynote speakers, all of whom did a great job introducing the topics in a thought provoking way”. | | Greg Bourne Marc Mangel Bob Pressey David Lindenmayer Jim Nichols Hamish Cresswell Tony Jakeman |
| CGR | Bayesian systems and integration into policy | ?? | ?? Carl Smith, Carmel Pollino |
| RB | “Sessions 1,2,3 as presentations provided a range of alternative views on topics of relevance to integrated catchment management and strategic planning” | Environmental decision making The art and science of prioritisation Adaptive Management | Marc Mangel, Charlie Zammit, John Whittington, Sarah Bekessy, Allan Curtis Bob Pressey, Anna Roberts, Ascelin Gordon, Kerrie Wilson, Hugh Possingham David Lindenmayer, Brendan Wintle, Phil Gibbons, Peter Baxter, Mick McCarthy |
| SG | “Monitoring for conservation session. Good overview of Landscape Logic, some of technologies new/interesting.” | | Jim Nichols, Eve McDonal-Madden, Cindy Hauser, Tony Norton, Dave Duncan |
| SG | “Most other presentations were good descriptions of existing issues that did not present new material, but framed the issues well.” | | |
| SG | “Ones that demonstrated methods or examples that I can use – many of them” | | |
| CG | “Ones that provided pathways of action or resources that can be used (now, not in future).” | | |
| R | “All of them. All highly relevant and well presented” | | |
| O | “Papers that provided tools to support management. Task priorities; restoration priorities; invasive species; pest management.” “Papers that reviewed evaluation and monitoring and especially cost effectiveness and adaptive management.” | | |
| CG | “The mix was good – favorites were those on the 1 st day – more | | |

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| | closely aligned to general policy.” | | |
| SG | “All the fresh faced postdocs – our future is secure in their hands.” | | |

DATA, MODELS, TOOLS AND KNOWLEDGE AND BARRIERS TO ADOPTION

Several questions were asked that allowed participants to comment on the knowledge they gained from the conference that they would find useful or that they may wish to adopt in their work as well any factors which would act as barriers to this adoption. This section summarises responses to these questions.

What did you learn of direct relevance to your work?

Responses to this question have been categorized by theme. A summary of the number of participants nominating each theme area and an example of the specific comments provided is given below.

| Themes | Number of responses | Example of comments |
|---|---------------------|--|
| Monitoring | 23 | How to most effectively develop monitoring programs to ensure times, \$\$ and biodiversity are not lost. |
| Decision support tools | 14 | Range of decision support examples and capacity is high and centred in a few nodes. |
| Use of science in decision making | 12 | The way spatial sciences are being used in decision making - really interesting to see. |
| Adaptive management | 7 | The importance of monitoring and adaptive management. |
| Expertise and capacity | 6 | Who is doing what. |
| Bayesian networks | 4 | Integrated analysis tools - Bayesian Networks etc. |
| Approaches to framing issues | 3 | General approaches to framing issues or problems |
| Communication issues between policy and researchers | 3 | More about the communication issues between policy of researchers, how values influence how research is prioritised. |
| Hub integration with key stakeholders | 3 | How the hub work integrates with key stakeholders and how it could help others. |
| Networking | 3 | New contacts and also new ideas to contrast and compare with our own work. |
| Policy making | 3 | Understanding more about the relationship science -policy making in Australia. |
| Relevance of own work | 3 | Where our project fits into decision theoretic approaches. |

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| Spatial prioritisation | 3 | Spatial prioritisation for investment in biodiversity - key factors to consider. |
| Accounting for nature | 2 | Better understanding of the need for better environmental accountability (accounting for nature). |
| Cost constraints in decision making | 2 | Re-emphasis of cost constraints in every environmental management decision. |
| Incorporating social and economic sciences into decision making | 2 | Ways to incorporate social and economic sciences into decision making processes. |
| Models | 2 | Particular modelling techniques which could be integrated into my work. |
| Optimisation | 2 | Formulating problems as optimisation ones is powerful. |
| Prioritising investment | 2 | How to prioritise |
| Uncertainty | 2 | Additional ways to address uncertainty and risks in a range of projects. |
| Vegetation change | 2 | Learnt of LL studies that are relevant and could be useful to my work eg. veg monitoring in TAS |
| Bayesian statistics | 1 | I learnt about SDP and Bayesian statistics = good decision making from Marc Mangel. |
| Biodiversity loss on urban fringe | 1 | Sarah Bekessy's talk on biodiversity loss on urban fringes. |
| Communication needs to end users | 1 | What is being done and needs to be communicated to end users. |
| Constraints on environmental managers | 1 | Still a way to go for some academic/Commonwealth thinking to understand needs and constraints of operating environmental managers. |
| Detection probability | 1 | Really interesting to hear about incorporating detection probability and targetted monitoring. Hopefully I can incorporate this into my own work. |
| Differences between marine and terrestrial systems | 1 | Substantial qualitative differences between marine and terrestrial systems (eg. spatial property rights). |
| INFER | 1 | |
| MCA | 1 | MCA=cost utility assessment in economics. |
| Need for institutional change | 1 | The need for institutional change, or at least research on institutional behaviour with respect to biodiversity conservation. |
| New ideas | 1 | Potential new areas to think about. |
| Participatory systems analysis | 1 | |
| Policy process | 1 | I found understanding the policy process will help to inform the way I do my research. |
| Potential collaborators | 1 | |

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| Potential role for SOE | 1 | The potential for SOE to assist/provide information for the tools/considerations/decision making/evidence re: emerging issues arising from the tragedy of the commons/market failure/early warnings before major changes of state/resilience collapse occur. |
| Social science | 1 | Need for more social science. |
| Systems thinking | 1 | Systems thinking to identify key issues to focus on. |
| Tools | 1 | State of tools. |

The main themes identified by participants were monitoring, decision support tools and the use of science in decision making. Adaptive management and understanding where expertise and capacity in different approaches is housed were also identified by many participants.

Are there data sets, tools, models or other knowledge you heard about at the conference that you think may be useful to your work?

Participants were asked to nominate any specific data sets, tools or knowledge they thought would be useful to their work. Responses are summarized below. Bayesian networks and INFER were mentioned most frequently. Many other data sets, models and knowledge sources were also identified by at least one participant. In total 51 different tools were identified.

| Tools | Number of responses |
|--------------------------------|---------------------|
| Bayesian networks | 16 |
| INFER | 11 |
| Adaptive management | 8 |
| Monitoring frameworks | 5 |
| AEDA's activities and tools | 5 |
| Hugh Possingham's work | 4 |
| Participatory systems analysis | 3 |
| Knowledge | 3 |
| Eve McDonald Madden's work | 3 |
| Bob Pressey's work | 3 |
| Tony Norton | 2 |
| Peter Cosier's work | 2 |
| LL activities and tools | 2 |
| LIDAR | 2 |
| Decision support tools | 2 |
| Visualisation tools | 1 |
| Systems modelling | 1 |
| Systems analysis | 1 |

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| Spatial tools | 1 |
| Socio-economic tools and data sets | 1 |
| Shane Broad's work | 1 |
| Sarah Bekessy's work | 1 |
| Role of GIS in decision/management process | 1 |
| PPP | 1 |
| Plain English translations of results/analysis | 1 |
| Peter Davies River Health drivers | 1 |
| Peter Baxter's work | 1 |
| Optimisation algorithms | 1 |
| Models | 1 |
| Mapped data from region | 1 |
| LL P3 - vegetation change | 1 |
| Lana Joseph's work | 1 |
| Kerry Wilson's work | 1 |
| John Whittington's 3 types of evidence | 1 |
| Issue of access and awareness raising | 1 |
| Integration methods | 1 |
| Integrated analysis | 1 |
| Hybrid expert systems | 1 |
| Examples of trends and tipping points | 1 |
| Examples of knowledge brokering | 1 |
| Dynamic stochastic programming | 1 |
| Diagram from Hamish Cresswell | 1 |
| Decision frameworks | 1 |
| Cost efficiency analysis | 1 |
| Conceptualisation methods | 1 |
| Cindy Hauser's work | 1 |
| CatchMODS | 1 |
| Ascelin Gordon's work | 1 |
| Alan Curtis' work | 1 |
| Accounting for nature | 1 |
| Concerned about misuse of INFER | 1 |

What do you think are the major barriers to these being used?

Participants were also asked to identify any barriers to their adoption of data sets, tools, models and knowledge identified in the previous question. Many different responses were received with distinct themes emerging in the responses. The most common barriers identified were a lack of experience or knowledge of the approach etc, a potential lack of relevance to end users, a lack of money or time, unspecified institutional barriers and a lack of mechanisms linking tools to management. Issues of trust, communication, data, timing conflicts, gaps in leadership and a need for on-going support were also commonly identified.

| Themes | Number of responses |
|---|---------------------|
| Lack of experience/knowledge | 22 |
| Relevance to end users | 15 |
| Lack of money | 13 |
| Lack of time | 13 |
| Institutional barriers | 12 |
| Mechanisms linking tools to management | 11 |
| Resources | 8 |
| Distrust in science/methods/data | 7 |
| Communicating benefits to senior management/other staff | 5 |
| Timing conflicts with decision making | 5 |
| Lack of data | 4 |
| Lack of leadership | 4 |
| On-going support | 3 |
| Lack of transferability | 2 |
| Commitment by land owners and managers | 1 |
| Lack of communication | 1 |
| Lack of interest by scientists in real world solutions | 1 |
| Lack standardised off-the-shelf approach | 1 |
| No barrier | 1 |
| Political imperatives | 1 |
| Resources tied up in broad surveillance | 1 |
| Short-term funding cycles | 1 |
| Willful ignorance | 1 |