

# A Review of the Monitoring and Evaluation Practices and Perceptions of Australian Regional Natural Resource Management Organisations

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## ***Abstract***

This paper highlights the current monitoring and evaluation practices and models of Australia's regional natural resource management (NRM) organisations and outlines some of the key issues that drive and the issues that prevent improved evaluation practice in these organisations.

A analysis of the relationships between drivers, barriers and current practices with consideration of the evaluation hierarchy (Rossi, Lipsey and Freeman cited in Sharp 2005) and the evaluation models proposed by Osborne *et al* (1995) shows a mismatch between the implemented evaluation models and the models expected based on the organisations' evaluation drivers for many of these NRM organisations.

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## ***Introduction***

The field of natural resource management (NRM) is highly complex: biophysically, socially, financially and institutionally. Australia's regional NRM organisations deal with this complexity on a day to day basis in their efforts to implement the community NRM plans for their individual regions. A core responsibility associated with the investment of the Australian and State/Territory funds in NRM activities through these regional bodies is the monitoring and evaluation of the impact, appropriateness, effectiveness, efficiency and legacy associated with the investment of these public funds (Commonwealth of Australia 2008, 2009).

This report outlines the findings of a survey of these regional bodies undertaken to identify aspects of the practices, perceptions and culture surrounding the monitoring and evaluation of their NRM investment programs. The survey was completed by 36 of the 56 regional bodies and provides insight into the differences and similarities between their organisations and approaches.

## **The Regional NRM Organisations**

### **INSTITUTIONAL CONTEXT**

Australia's regional NRM organisations were established as a unique national experiment under a Liberal party government through the National Action Plan for Salinity and Water Quality (NAP) in 2004. This experiment applied a regional approach to prioritisation and investment in natural resource issues that was expected to maximise community involvement, and leverage investment and promote ownership and longevity of outcomes by focusing on the priorities identified by the regional communities (including state and local governments, industry groups, community groups, individuals, non-government organisations, and business).

The creation of these new regional NRM organisations introduced a whole new institutional level to the nation's environmental governance through bilateral agreements between the Australian and relevant State/Territory governments. Under these agreements, so States/Territories chose to adopt a statutory model (e.g. Victoria and New South Wales) while others maintained these organisations as non-statutory, community based organisations (e.g. Queensland and Western Australia).

Despite this fundamental institutional difference, all of the regional NRM organisations are mandated for improved natural resource management across their catchments and were required to establish both a regional NRM plan and an associated regional investment strategy for implementation upon which investment contracts were developed.

The change to a Labour government has caused changes within these organisations. The Australian Government has shifted its focus from regional priorities to National priorities that no longer value these regional NRM organisations as the primary delivery or coordinating agents. The introduction of a competitive program of investment on national issues rather than regional has made collaboration, sharing of knowledge and community leverage (return on investment) more difficult.

## DIVERSITY

Along with the statutory/non-statutory differences between these organisations, they cover vastly different catchment areas ranging from less than 200 000 hectares in the Sydney metropolitan area to a maximum of nearly 300 million hectares in the Rangelands NRM region of Western Australia. The populations of the regions vary from a minimum of around 2000 in Alinytjara Wilurara NRM Region (north western South Australia) to a maximum of around 12 million in the New South Wales' Hunter-Central Rivers NRM region (refer to **Figure 1**). The landscapes managed by these organisations also vary - from deserts, to rainforests; from natural to agricultural and urban landscapes all with unique natural resource management issues and contexts.

## Evaluation theory

### EVALUATION HIERARCHY

The evaluation hierarchy (posed by Rossi, Lipsey and Freeman cited in Sharp 2005) can be generally grouped into the three categories of pre-program evaluation, within-program evaluation, and post-program evaluation as shown in **Figure 2**. This framework is used to assess the current evaluation practices of the regional NRM organisations to determine their current status of adoption.

### EVALUATION MODELS

The evaluation models were previously applied by Osborne *et al* (1995) in a local government context. Due to the relatively close nature of some models and the resulting difficulty in differentiation between them, the models were grouped for the purpose of this research as described below.

#### *Group one: Political and Symbolic models*

Political and Symbolic models tend to be primarily public relations exercises. They are more about keeping public opinion and funding rather than taking a hard look at the tough questions of effectiveness etc.

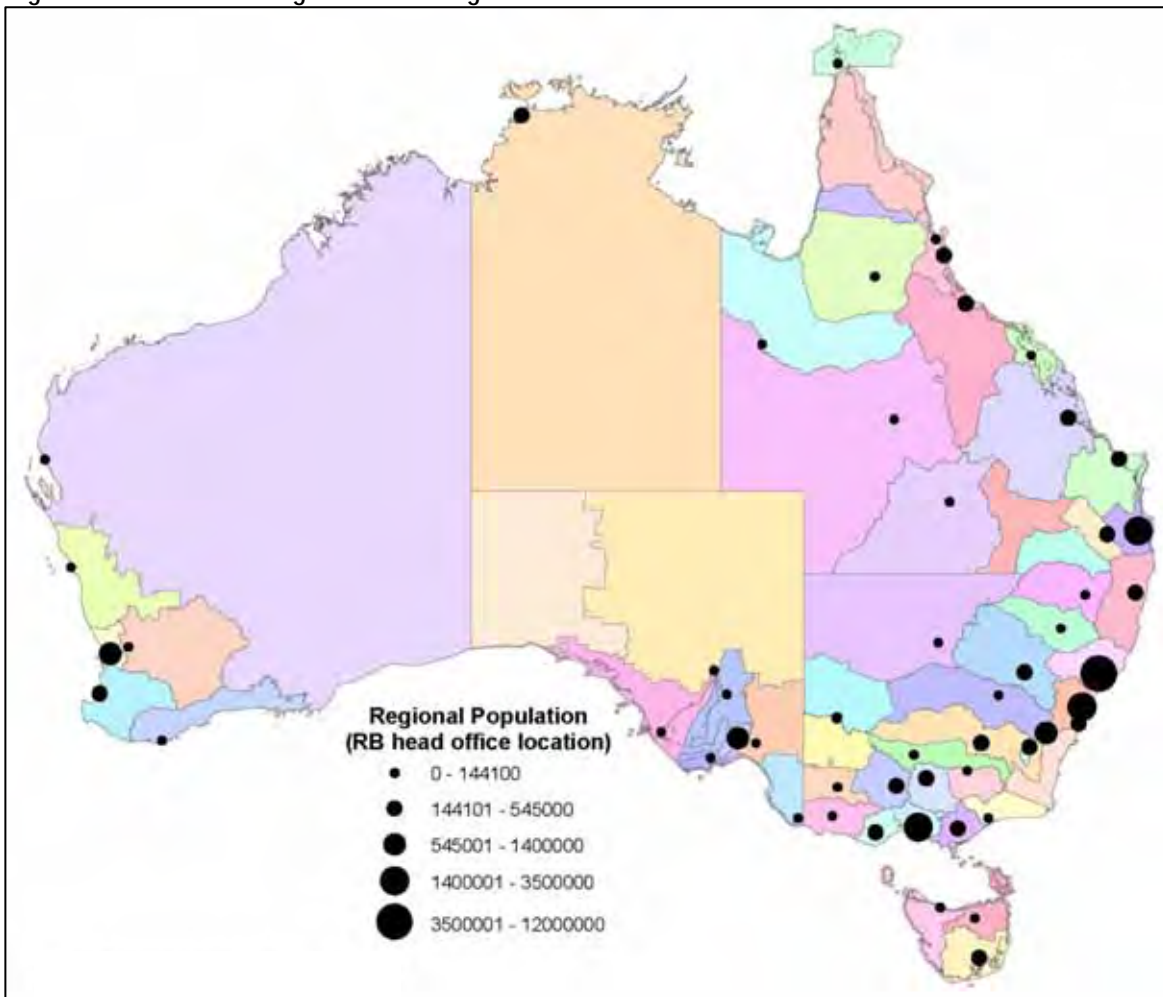
#### *Group two: Constitutive and Bounded reality models*

Constitutive model of evaluation tends to focus on only some aspects of the business and ignore others, while the Bounded reality model applies the belief that one can never be fully informed no matter what is done, so only a limited amount of information is collect and used.

#### *Group three: Organisational excellence and Contextual models*

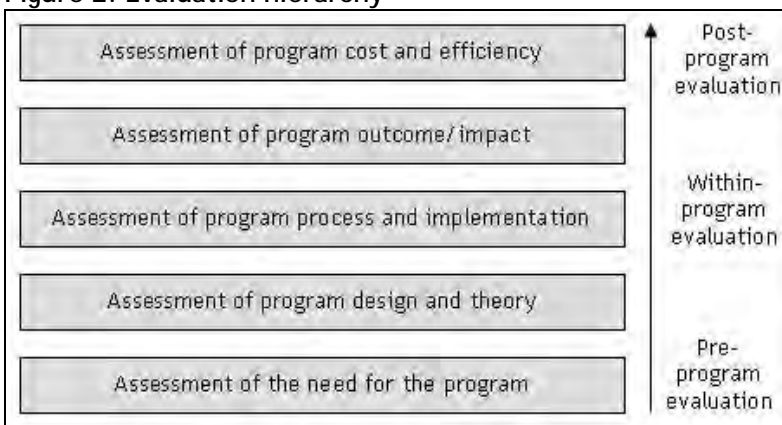
The Organisational excellence model assesses an organisation against its own productivity benchmarks and critical success factors from the past, which doesn't necessarily factor in continuous improvement or changing environments. The Contextual model takes the whole context of the organisation and its working environment into account for continuous improvement and resilience at all levels of decision-making.

Figure 1: Australia's Regional NRM Organisations



Source: Regional NRM Organisation boundaries provided by Department of Environment and Resource Management (2006)

Figure 2: Evaluation hierarchy



Source: based on Rossi, Lipsey and Freeman cited in Sharp 2005

## Methodology

### Survey aims

The survey undertaken as part of this research, aimed at quantifying the similarities and differences between the regional NRM organisations in order to provide the necessary context for considering evaluation practice. It also aimed to identify the barriers to evaluation facing these organisations and to establish their satisfaction levels with regard to their current monitoring and evaluation practices. The survey aimed to establish these organisation's levels of

adoption of practices within the evaluation hierarchy (posed by Rossi, Lipsey and Freeman cited in Sharp 2005) to assist with determining the status of evaluation practice, and determined the evaluation models (as applied by Osborne *et al* 1995) adopted by the regions to consider their potential for evolution of evaluation.

## Survey design and data collection

A review of literature surrounding evaluation within the local government, health and education industries, supported with the limited available NRM evaluation literature, was used to identify the themes and relationships to be addressed in the survey. The literature also provided the detail to support development of the topic lists and detail within the survey, including drivers of evaluation, barriers to evaluation, the evaluation hierarchy, and evaluation models.

Advice from survey design experts was incorporated in the survey design within the question wording, questionnaire layout and scales used for scoring responses. A 0-10 Likert scale was used for most questions. The questionnaire was also minimised in length by obtaining demographic information for each recipient from alternative sources. The main source for the demographic data was the 2007-2008 Annual Report of each respective organisation, supported by data from their website where necessary.

An engagement approach was specifically designed to maximise response rates, and attempted to maximise the opportunities provided by the unique within-industry position of the researcher and resulted in a 64% response rate (i.e. 36 responses from a total population of 56).

The survey process utilised the Adobe Acrobat Professional's form creation and management functions to provide user friendly, easily submitted responses that allowed for direct collation into Excel and removed the potential for transcription errors.

Ethics approval was obtained for this research through the University of Southern Queensland's Human Research Ethics Committee.

## Data analysis

As much of the survey data was not normally distributed, various non-parametric tests were performed on the data. These included descriptive analyses, correlations and means comparisons. The key outcomes of these analyses are outlined in the **Results** section below.

Review of the literature allowed for the development of a conceptual map between the monitoring and evaluation practices assessed in the survey and both the evaluation hierarchy (Rossi, Lipsey and Freeman cited in Sharp 2005) and the evaluation models (Osborne *et al* 1995) and between the drivers of evaluation and the evaluation models. The scores from the aligned questions were aggregated and the averages used to determine dominant alignment in each case.

## Results

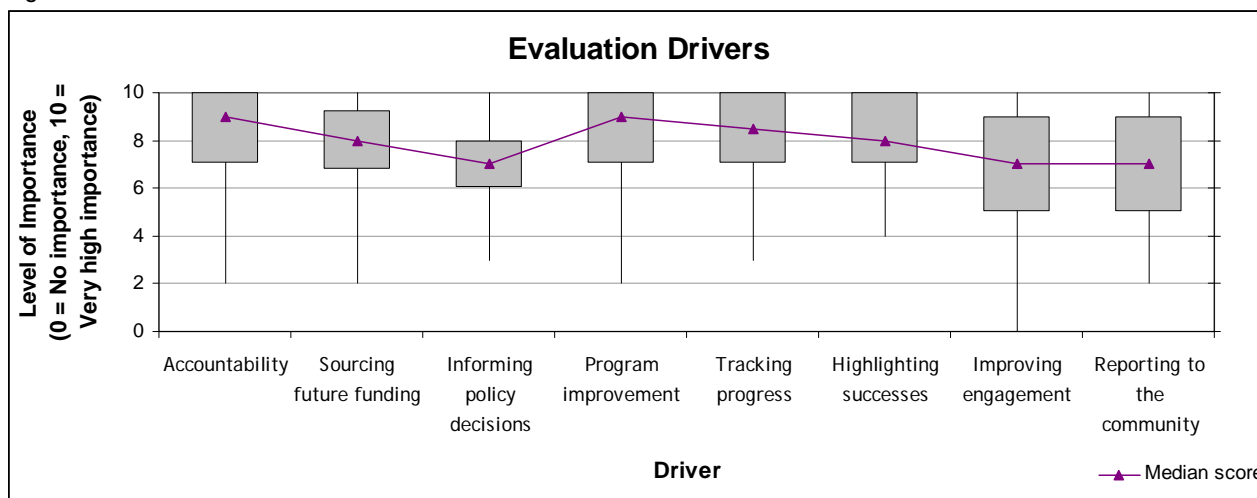
### Evaluation drivers

The distribution of survey responses for questions related to the level of importance of a range of drivers of evaluation is shown in the box and whisker plot in **Figure 3**. These scores were reasonably consistent and were all rated quite highly (mean over 7). The higher rated drivers were those relating to accountability and reporting to funding bodies as expected where government funding is high, while the lowest drivers were those associated with informing policy and improving community engagement.

There were many correlations between the drivers assessed showing the interconnectedness of these imperatives, with particular correlations among drivers associated with accountability and acquisitive drivers and among drivers associated with program tracking and improvement and with engagement.

Regional bodies that had undertaken corporate strategic planning were less likely to be driven by accountability to funding organisations than those without this planning, which may be due to the associated development of internal monitoring and evaluation drivers supporting other purposes.

Figure 3: Evaluation driver scores



## Barriers to evaluation

The distribution of survey responses for questions related to the level of influence of a range of barriers to evaluation is shown in the box and whisker plot in Error! Reference source not found.. In comparison to the distribution of driver importance scores, the barriers to evaluation are much less consistent across the regional bodies. The two lowest influencing barriers were those relating to lack of equipment and skills, while two of the highest influencing barriers were those relating to the isolation of project impacts (from other projects and from seasonal impacts).

Barriers associated with the use of surrogate indicators were significantly different across states. For example, the average influence rating for these barriers was 9.0 in Western Australia compared with only 2.3 in Tasmania.

One point of analysis that highlights the importance of contextual information to the interpretation of these statistics is that regional bodies whose monitoring and evaluation practices were highly influenced by a lack of funds had no measurable difference in income to those that rated this barrier as of low influence - indicating that there are other business environment factors in play.

## Current evaluation practices

The distribution of survey responses for questions related to the level of importance of each practice to their current monitoring and evaluation is shown in the box and whisker plot in Error! Reference source not found.. There was consistently higher importance placed on the within-program (outputs, immediate and intermediate outcomes) monitoring and evaluation, with lower importance on the pre-program practices and variable importance in the post-program practices. Economic impact evaluation generally scored the lowest.

An important point to note regarding these practices was that the survey scores identified level of practice importance, not the quality of implementation and results.

Figure 4: Evaluation barrier scores

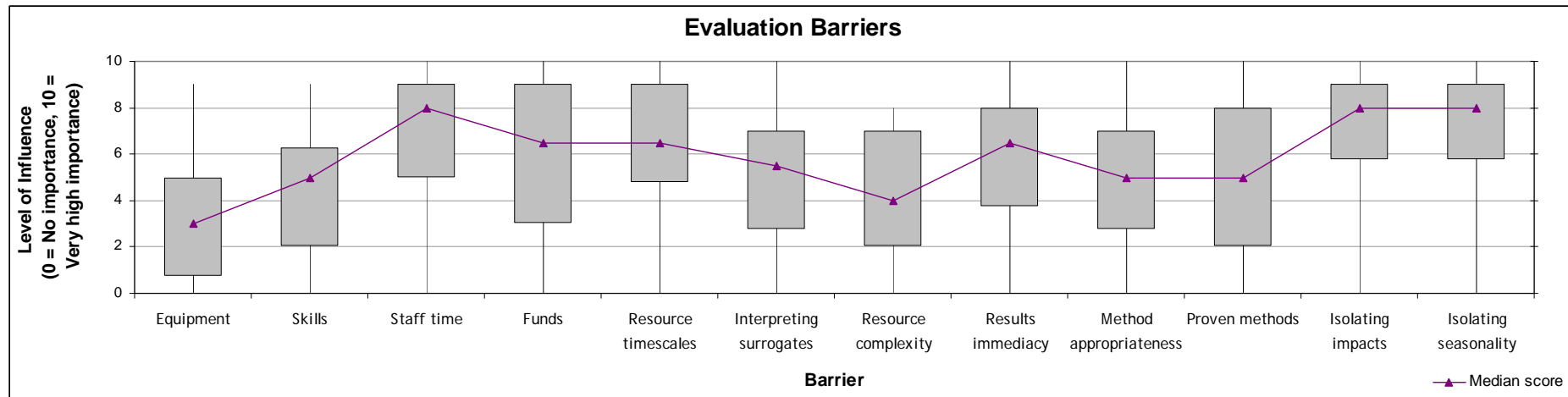
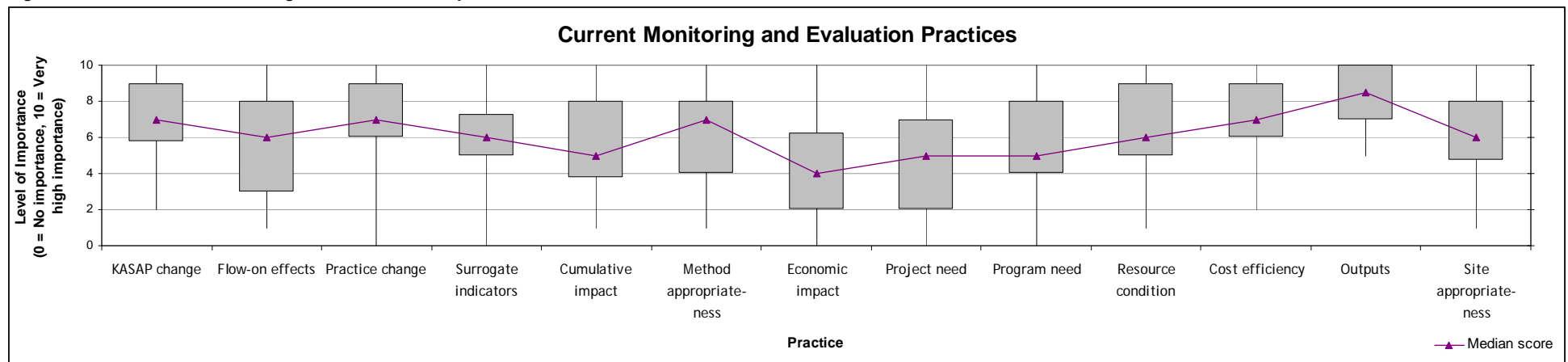


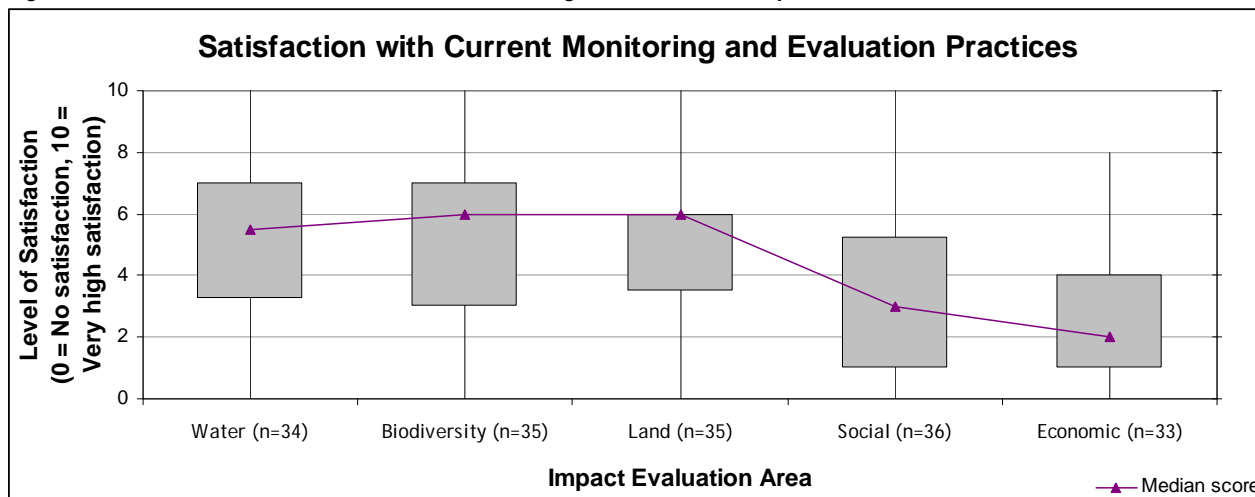
Figure 5: Current monitoring and evaluation practices



## Satisfaction with current evaluation practices

The distribution of survey responses for questions related to the level of satisfaction current monitoring and evaluation for the range of impact areas addressed is shown in the box and whisker plot in Figure 6. This question focused on satisfaction with Natural Resource Management Plan theme areas rather than the generic practices of earlier questions.

Figure 6: Satisfaction with current monitoring and evaluation practices



Again, economic impact evaluation rated low as it did in importance to current monitoring and evaluation practices. Social impact evaluation also rated low, with around 75% of regional bodies indicating that their satisfaction was at best “so-so” (low-moderate).

A few key correlations indicated by the analysis include:

- The higher the number of staff in a regional body, the less likely they were to be planning large scale changes.
- Regions that were strongly driven by the driver of program improvement were more likely to be planning larger scale changes.
- The regions that rated economic impact evaluation as highly important to their current practices were more likely to be satisfied with their economic impact assessment practices than those that rated it of lower importance.

## Monitoring and evaluation partnerships

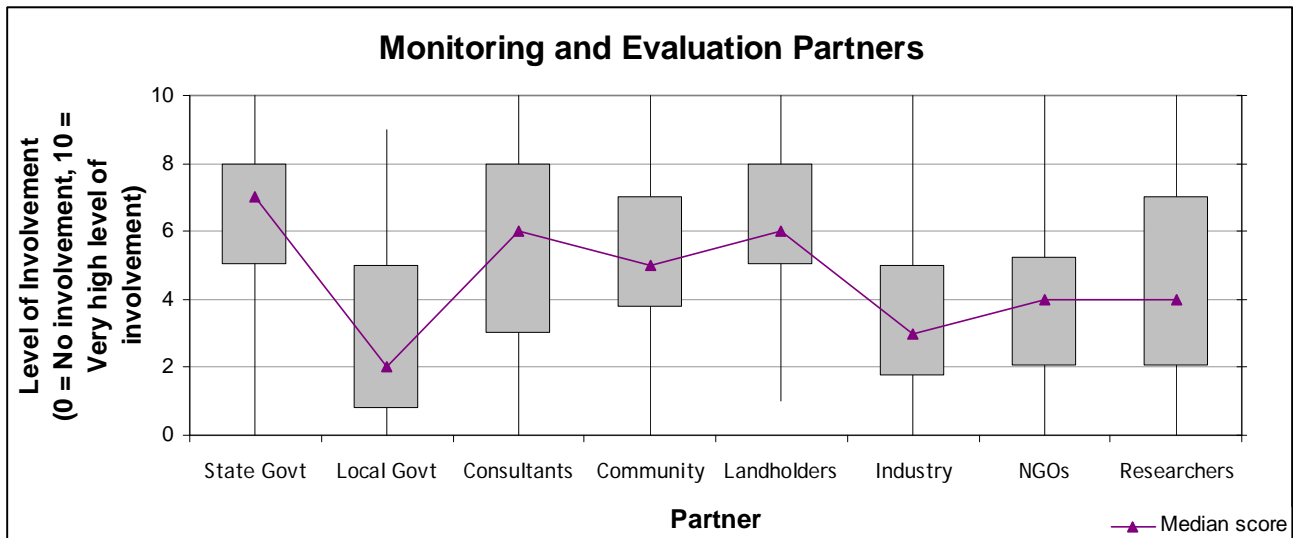
The distribution of survey responses for questions related to the organisations and individuals that the regional bodies partner with to undertake monitoring and evaluation is shown in the box and whisker plot in Figure 7. Local government was consistently at a low level of utilisation, with Industry and Non-Government Organisations also rating low.

State government and landholders, however, were more highly utilised, followed closely by community and to varying levels by consultants.

A few key correlations indicated by the analysis include:

- The larger the regional area the less likely the regional body is partnering with the State government for monitoring and evaluation and conversely, the higher the population of the region the more likely the regional body is partnering with the State government.
- The regions with higher population are also more likely to be partnering with Local government and NGOs and partnering on a volunteer basis.
- Regions more highly driven to use monitoring and evaluation to inform policy are more likely to be partnering with State government.
- Regions using a dominant volunteer model for their monitoring and evaluation partnerships are more likely to have barriers associated with complexity (of methods and reporting results).

Figure 7: Monitoring and evaluation partners



### Statutory status

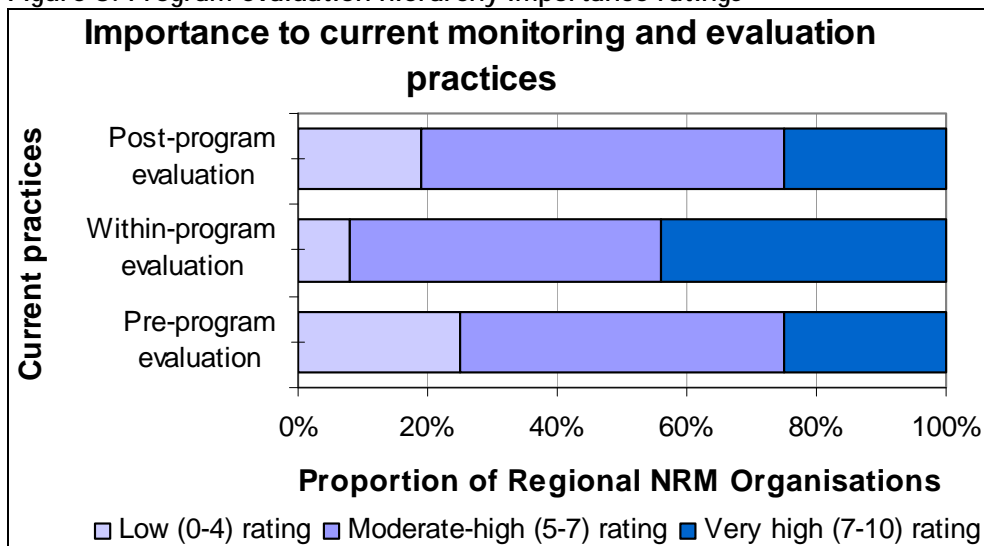
Analysis of the survey results identified very few differences to the region’s monitoring and evaluation aspects due to statutory status. The main differences include:

- Barriers associated with impact isolation from seasonal impacts were rated as having significantly higher influence by statutory regional bodies than by their non-statutory counterparts.
- Statutory regional bodies have significantly less monitoring and evaluation partnerships with local government and significantly more of these partnerships with land managers (refer to Error! Reference source not found.). In general, non-statutory regional bodies show much more variability in their partnerships although the median lines for both charts follow the same general trend.

### Evaluation hierarchy

As discussed under Current evaluation practices above, the regional bodies generally placed a higher level of importance on their within-program monitoring and evaluation practices. A comparison of these ratings is shown in Figure 8. While only 25% of regional bodies rate their pre- and post-program monitoring and evaluation as of very high importance to their current practices, only 20-30% of regional bodies rate these practices as of low importance.

Figure 8: Program evaluation hierarchy importance ratings





## Evaluation models

As outlined in the **Evaluation models** section within the **Introduction**, the models used here were applied by Osborne *et al* (1995) in a local government context.

45% of the regional bodies' drivers for evaluation are pushing them to adopt high level evaluation (Organisational excellence/Contextual) models, and 47% of regional bodies implement these high level models. Interestingly, not all of the regional bodies implementing these higher level models have drivers that lead them to value such models as is illustrated in **Table 1**. Only 25% of regional bodies are both driven to and implement these high level evaluation models.

A question of high interest associated with this analysis is what drives the 6% of regional bodies that implement these higher level evaluation models when their drivers indicate that they are unlikely to value these models?

Table 1: Evaluation models

PROPORTION OF REGIONAL BODIES		ACTUAL EVALUATION MODEL (INCREASING LEVEL OF EVALUATION LEFT TO RIGHT)		
		POLITICAL/ SYMBOLIC	CONSTITUTIVE/ BOUNDED REALITY	ORGANISATIONAL EXCELLENCE/ CONTEXTUAL
EXPECTED EVALUATION MODEL (INCREASING LEVEL OF EVALUATION TOP TO BOTTOM)	POLITICAL/ SYMBOLIC	6%	3%	6%
	CONSTITUTIVE/ BOUNDED REALITY	14%	11%	14%
	ORGANISATIONAL EXCELLENCE/ CONTEXTUAL	11%	11%	25%

## Conclusion

### Status of current evaluation

45% of the regional bodies' drivers for evaluation are pushing them to adopt high level evaluation (Organisational excellence/Contextual) models, and 47% of regional bodies implement these high level models. Questions arise around what the future will bring for those regional bodies whose expected evaluation model does not match their actual implemented model: Will the regional bodies tend towards their expected model? Or will other market, peer or industry pressures drive them to adopt different models?

### Opportunities

Two areas identified for collective further research and/or training are those of economic impact evaluation - which scored consistently low in both its importance to current practices and satisfaction with current practices - and impact isolation (causality). Both these areas pose opportunities for the regional bodies and their supporters and partners to undertake joint effort to address these identified gaps.

### Statutory status

The statutory status of a regional body made very little difference to its monitoring and evaluation, significantly affecting only two partnership types (i.e. local government and land managers) and barriers associated with isolating project impacts from seasonal impacts.

## Further research

Further research is required to better identify the potential influencing factors surrounding the findings of this survey. Interviews with a selection of regional bodies could provide significant insight into the 'why?' associated with the findings to date.

## References

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