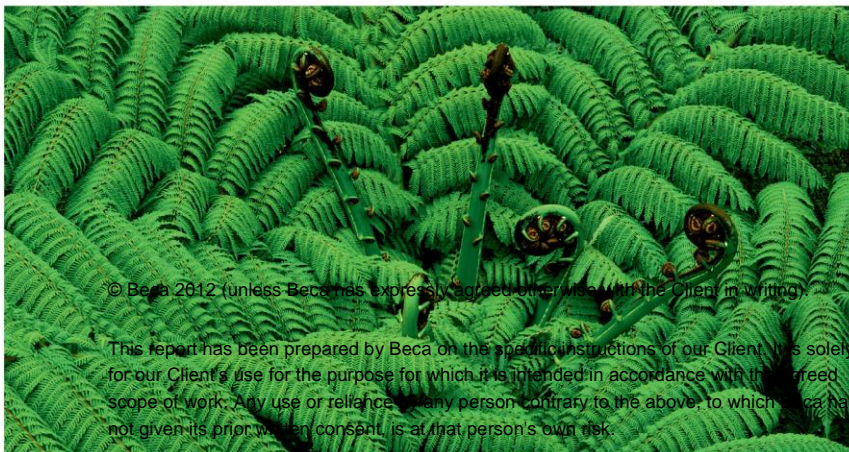Final Report

Monitoring and Review Project - Gap Analysis

Prepared for Ministry for the Environment

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Revision History

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A	Phil Gurnsey	Table of Contents for MfE review	14/05/12
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1   Executive Summary

The Ministry for the Environment, the Department of Conservation and councils have a responsibility to monitor the implementation and effectiveness of the Resource Management Act 1991 (RMA).

The Ministry for the Environment currently uses a number of mechanisms to capture RMA monitoring information including the Biennial Survey of local authorities, State of the Environment monitoring, research and one-off data requests. However, there is no national framework to identify and capture consistent and comparable information to understand how the RMA is implemented and whether it is effective at what it is trying to achieve.

The purpose of the Monitoring and Review Project is to establish a national monitoring framework to monitor the implementation and effectiveness of the RMA, and its functions, processes and tools.

This gap analysis is the final part of the Stage One - scoping of the project. Stage One to date has included three scoping studies as follows:

- an analysis of potential national monitoring needs under the RMA
- case studies and lessons learnt from the development and operation of other national monitoring frameworks
- a stock take of current RMA monitoring across the Ministry for the Environment and selected group of other government departments and local authorities

This report presents the key points and considerations from across the three scoping studies in a concise but well-connected manner to support the Stage Two design and development process. By design, this gap analysis should help identify and reinforce the problem definition for monitoring upon which the Monitoring and Review Project is based.

Two forms of gap analyses (SWOT and 'spidergap' analyses) are undertaken in this report, as well as potential gaps are identified in the evidence basis. Our conclusions are, that in designing a monitoring and reporting framework for the RMA, there are a number of problems to address. We define these problems as follows in terms of processes and outcomes, data, systems and networks.

Processes and outcomes:

- have vague requirements that are unspecified in legislation
- are not universally supported by the use of frameworks
- miss some core monitoring requirements such as monitoring of functions
- are limited by costs of the processes
- provide limited feedback
- are generally overdue for review

Data:

- tends to be focused on natural resources monitoring at the regional council level
- has requirements for multiple indicators, only some of which have been developed
- has a quantitative rather than qualitative focus
- is not supported by the use of standards for collection
- lacks standardisation and interoperability
- is of variable quality when amalgamated into a national picture

Systems:

- are managed independently
- are supported by diverse infrastructure
- rely on as-needed reporting

Networks:

- agglomerate data rather than present raw data
- are driven by an internal focus
- are supported by weak governance

Cost is an overriding factor and limits the amount of monitoring undertaken particularly by small councils.

2 Introduction

2.1 Background to the Monitoring and Review Project

The Ministry for the Environment is currently undertaking a Monitoring and Review Project: *Towards an integrated monitoring framework for the RMA*.

The purpose of the Monitoring and Review Project is to establish a national monitoring framework to coordinate and manage the collection and sharing of nationally consistent and comparable information on the implementation and effectiveness of the RMA and its functions, processes and tools.

The objectives of the Monitoring and Review Project are to:

■ develop a clear and transparent national monitoring framework
   – provide robust information on the implementation of the RMA
   – provide information on the performance of tools (national policy statements), functions (plan making) and processes (issuing resource consents) under the RMA
   – improve the availability, consistency and comparability of RMA information
■ streamline the collection of information to achieve efficiencies
■ provide information to produce a coherent picture of the RMA's overall outcomes

The project is divided into three stages:

This study is the final part of the Stage One - scoping of the project, which has involved three studies so far:

■ Needs analysis: This will identify all the functions, tools and processes that could be nationally monitored across the RMA
■ Case studies: This will identify and learn from the development and operation of national monitoring frameworks from New Zealand and abroad
■ Stock take: This will identify and catalogue the data collection processes and systems currently used by local and central government for monitoring the RMA

2.2 Purpose and Structure of this Report

This report completes the scoping of the project. The purpose of this "gap analysis" is to distil down key points from across the three other scoping studies to highlight the current state of RMA monitoring. From this, any gaps or opportunities can be identified and used to inform the next stage, Stage Two – development of a national monitoring framework.

Gap analysis has different definitions, but generally refers to an analysis of the distance between the desired state and the reality of current capabilities. In the context of the Monitoring and Review Project the needs analysis and the case studies represent a potential desired state of monitoring and the stock take represents the current state. The issue we have however is that the desired state

is not yet defined. It is therefore important that the gap analysis defines criteria by which success of any national framework for monitoring the implementation of the RMA can be assessed.

This report presents two alternative forms of gap analysis

- SWOT analysis: identifying strengths, weaknesses, opportunities and threats (refer section 4)
- Spidergap analysis: uses a spider chart (or radar chart) to graphically display the principles of a good framework for monitoring against reality. It is an attempt to quantify an otherwise subjective assessment (refer section 5).

It is intended that both will spark a degree of discussion for the next phase of this project – the policy development phase (Phase two). They will also identify matters for further consideration by the Ministry for the Environment.

Finally we present potential gaps in the evidence base that could be addressed by further study – we suggest giving priority to addressing these evidence gaps in section 6.

In conclusion, we present a defined problem. The problem is a culmination of the discussion that follows the presentation of the SWOT and spidergap analyses. We define the problem components through a fishbone type diagram in section 7 of this report.

3   Summary of Scoping Stage

We provide a short summary of the matters contained within each of the three reports prepared as part of Stage One – Scoping.

3.1   Needs Analysis Report

The Needs Analysis Report spells out the statutory requirements across the functions, processes and tools of the RMA. The report highlights the extensive monitoring needs of the RMA that 'could' potentially be monitored from a national perspective. Working through what is proposed to be monitored and how and when is part of Stage Two of the project.

Needs were identified using a logic flow to characterise inputs, outputs and outcomes expected across the identified functions, processes and tools under the RMA. Types of monitoring measures were identified as part of the process and were categorised into three basic areas of focus:

- internal Ministry for the Environment system or process
- council implementation
- activities of other parties with roles under the RMA, e.g. applicants, iwi or a board of inquiry

The needs analysis also highlighted the distinction that emerges between:

- monitoring a process or aspects of the process (e.g. plan change process or resource consent timing)
- monitoring an outcome (e.g. plan content or resource consent decision).

The needs analysis also highlighted functions, processes and tools which were linked to functions, processes and tools that lie outside the RMA (such as Long Term Plan (LTP) frameworks and monitoring).

To support and inform the stock take work, the needs analysis findings were categorised into five monitoring processes and functions:

- Functions monitoring
- Resource consents / designations monitoring
- Plan / policy statement (including change or variation) monitoring
- Compliance / enforcement monitoring
- State of the Environment (SOE) monitoring

3.2   Case Studies Report

This report covers the preparation of eight case studies on monitoring frameworks used within and outside of New Zealand. The intent was to look at cases studies where similarities can be drawn to the monitoring and review requirements of the RMA. The case studies highlight strengthens and weaknesses. They also provide advice on attributes of effective monitoring and review frameworks. Finally a set of recommendations on key lessons learnt is provided. As such, the case studies highlight the following features about monitoring and review frameworks:

- There should be strong drivers for developing a monitoring and review system
- There should be identification of anticipated implications and objectives
- It should generates useful information to inform action
- Stakeholder engagement is essential from the start

- Champions at high levels are required
- Use intervention logic to decide what to monitor
- Indicators should be SMART
- Start with a small number of parameters to monitor
- Standardise data collection
- Keep existing systems and costs in mind
- Establish governance arrangements
- Ensure adequate funding
- Make the output fit for purpose
- Allow for self-analysis and ensure feedback loops are able to improve the system
- Allow devolved reporting
- Don't disregard evaluation as it still serves a purpose

On the basis of these features the case studies report highlights 10 principles/steps for the development of a national monitoring framework as shown in Figure 1

Figure 1: 10 steps for developing a monitoring framework

3.3   Stock Take Report

The purpose of the stock take of RMA monitoring was to identify and catalogue the data collection processes and systems currently used by local and central government for monitoring the RMA.

The project involved surveying 15 local authorities and 11 Government agencies, identified by the Ministry for the Environment (and who are part of the Monitoring and Review Project). The focus was on the common themes, challenges and opportunities for improving RMA monitoring.

The study sought to identify the matters outlined in Figure 2 across the following monitoring processes and functions identified from the Needs Analysis:

- Functions monitoring
- Resource consents / designations monitoring
- Plan / policy statement (including change or variation) monitoring
- Compliance / enforcement monitoring
- SOE monitoring

Figure 2: summary of inquiry undertaken in the stock take report

Process/Outcome	• What process was chosen and what outcomes were achieved?
Data	• What data is collected?
System	• What systems are used to support the data?
Network	• What networks are there to support the systems?
Cost	• What does this all cost?
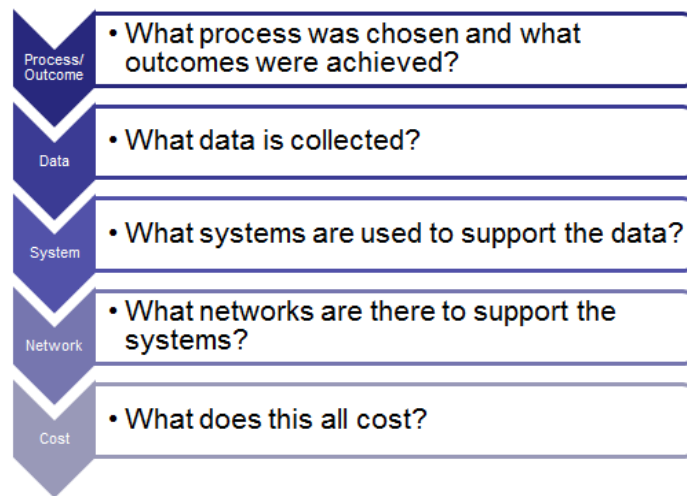
The stock take outlines that there are some significant achievements in monitoring, which support the potential for further improvement in the manner in which monitoring is undertaken under the RMA.

Ministry for the Environment findings

The stock take of the Ministry for the Environment monitoring work confirms that it uses a number of tools to monitor the implementation and effectiveness of the RMA, primarily being the RMA Survey of Local Authorities, the National SOE monitoring data and other research and data collection such as the use of prosecutions under the RMA. However, the current approach has not been informed by a comprehensive framework which coordinates and consolidates the full range of monitoring needs for the RMA. The lack of framework has led to some duplicated efforts, e.g. in tracking plan change processes or enforcement actions separately from the RMA Survey of Local Authorities.

The SOE programme of the Ministry is very comprehensive and relies on partnerships for the collection and sharing of environmental data. However, there are significant difficulties in getting consistent reporting to inform the 22 environment indicators developed as part of the programme.

The RMA Survey of Local Authorities has a long history of evolution dating back to 1996. It is seen as the primary means of highlighting the trends in implementation of the RMA, as well as areas where performance by local authorities may require greater attention.

Central Government agencies findings

As identified by the Needs Analysis, only the Environmental Protection Authority, the Department of Conservation and the Ministry for the Environment have monitoring functions under the RMA. The Ministry of Justice and the Ministry for Primary Industries have monitoring data and systems of significant relevance too. The Ministry of Justice acts in a supporting role for the Environment Court, while the Ministry of Primary Industries is responsible for monitoring the Dairying and Clean Streams Accord.

There are no commonalities in relation to systems for any of the central government agencies despite the government's Open Government Information and Data Re-use Work Programme. There are however commonalities and networks for sharing the data across SOE related programmes. The SOE material is nationally accumulated and then shared publicly as summary data sets. More however could be done to share publicly the raw data sets themselves. More common methods of reporting are via indicator reports such as those carried out by Statistics NZ (sustainability reporting), the Ministry of Environment (as noted above in 22 environmental indicators) or the Ministry of Economic Development (energy data).

Local authorities' findings

Our sample size means we were unable to draw conclusive statements about types of councils undertaking actions. However, our findings are that there is a positive correlation between the size of the council and the monitoring undertaken. Smaller territorial authorities tended to undertake little SOE monitoring, compliance monitoring was on a pressure needs basis and resource consent monitoring was done to meet the requirements of the Ministry for the Environment's RMA Survey of Local Authorities. Regional councils tended to undertake comprehensive monitoring programmes.

No council undertook monitoring of functions (ss 34 and 34A of the RMA).

For the majority of councils the level of strategising undertaken regarding RMA monitoring was limited to the LTP processes under the Local Government Act 2002, or within the mandatory requirements of the district and regional plan (an option inclusion from ss 67(2)(e) and 75(2)(e) of the RMA.

For larger councils (who were perhaps better resourced) more comprehensive frameworks served the purposes of:

- providing a framework and processes for detailed monitoring programmes in order to achieve integration and co-ordination across the councils
- identifying broad information requirements to address each important resource management issue
- specifying key information and defining monitoring programmes for each of the main resource management issues
- providing a rationale for assigning priorities to various monitoring programmes
- determining potential for rationalising within monitoring programmes in order to ensure only relevant data is collected in a cost-effective system
- providing guidance for reporting to the public
- helping avoid unnecessary duplication of monitoring effort

Data collected tended to be greater within regional councils, relating to pressure, state or response monitoring of natural environment (such as irrigation restrictions river flows, rainfall, swimming water quality, groundwater allocation, groundwater levels, coastal monitoring, wave buoys and air pollution).

The balance of data collection of national versus local needs is in favour of delivery of data for local needs. The exception being the RMA Survey of Local Authorities which has determined data requirements for consent processes – although this in part is driven by the requirements of the consent processing under the RMA. For small councils consent process monitoring is a major part of their monitoring effort.

Systems were also more extensive in regional councils and in many cases strategies and frameworks had been developed to guide actions. Indicators however varied depending on the regional nature of issues.

Further focus needs to be given to developing the data councils gather into useful information. On the whole councils collect and store data about water, air, land, the coastal environment, and so on. However, what data is collected, where it is collected from, and how the collected data is managed has largely been the decision of the primary collector. This is a reflection of a lack of monitoring strategies that stretch across the functions and roles of a council. Few councils appeared to have made a conscious decision on the breadth of the indicators they would collect information about and why.

Systems used to store and manage data varied widely across councils. A system called 'Tech 1' was popular with territorial authorities surveyed. Some regional councils (Northland Regional Council, Waikato Regional Council, Horizons Regional Council, Taranaki Regional Council, West Coast Regional Council, and Environment Southland) were moving to a new system called IRIS – Integrated Regional Information System – but it had yet to be deployed. With exception of SOE council functions, almost no data sharing agreements exist and only a few councils share data through mutually compatible databases (Hilltop, NCS, IRIS and Tech1). There is potential for more sharing to occur with the development of the IRIS system. The need for a database that is universally compatible that pulls together data from numerous councils is mentioned repeatedly throughout the stock take.

With the exception of the IRIS initiative, consent compliance monitoring data is stored separately to pollution incident data, and both are stored separately to ambient environmental monitoring data. Because of this, much data is not being used to its full potential.

The costs of monitoring by councils are relatively unknown. No clear delineation of the costs was recorded by councils in a manner which would enable us to assess the costs of monitoring the environment in New Zealand. Monitoring as such was not identified by many as an independent activity as opposed to other operations.

There is a clear divide between the monitoring effort of small and large councils (reflecting budgetary resources available), and between small territorial authorities and regional councils (reflecting monitoring of natural processes and the monitoring needs of natural resources). Our investigation included only two unitary authorities and we cannot make clear conclusions about the differences between unitary and non-unitary councils.

4   SWOT Analysis

Using the standard methodology of the SWOT analysis, we evaluate in this section the Strengths, Weaknesses/Limitations, Opportunities, and Threats involved. The issues we have identified in this SWOT analysis are summarised in Figure 3 below. The analysis is derived from looking at the stock take of RMA monitoring. SWOT analysis in this context is used to help develop a preferred future. It is one of the time tested tools that has the capacity to enable us to better understand and develop a greater level of insight into RMA monitoring.

In this section we go on to describe each feature we have identified as common themes.

Figure 3: Summary of the SWOT analysis

Strengths
- Devolution leads to innovation
- Collaboration occurring at regional level
- Frameworks provide focus
- National direction provides guidance
- National indicators framework

Weaknesses
- Local drivers v national needs
- Inconsistent systems
- Incompatible data
- Few networks for territorial authorities
- Quantitative versus qualitative
- Multiple initiatives
- Inventory of who does what
- Monitoring of Local Authority functions

Opportunities
- Central government direction
- Integrated platforms (e.g. IRIS, LAWNZ, data.govt.nz)
- Interoperability
- Long Term Plan linkages
- Technology and tools of visualisation
- Local authority amalgamation and shared services
- Focus on outcomes

Threats
- Requirements from national instruments
- Prescription
- Political buy-in
- Cost

4.1   Strengths

The key strengths of the monitoring currently undertaken are identified as follows:

Devolution leads to innovation

The nature of the devolved manner in which monitoring is undertaken has led to innovative responses. Without being prescriptively constrained, and with minimal best practice guidance (such as that contained on the www.qualityplanning.org.nz website), there are some excellent examples of monitoring being undertaken to meet the statutory requirements of the RMA. Innovation is often identified across different councils to suit different needs and factors, but this also creates variability.

Collaboration occurring at regional level

Regional councils have tended to work together more than territorial authorities in collaborative efforts. This consideration to a large extent reflects the less number of entities to coordinate and the natural science focus of the RMA responsibilities for regional councils. The IRIS proposal and the LAWNZ website are two initiatives which see multiple regional councils acting together to build systems and disseminate information.

It is unclear is such collaboration is happening between territorial authorities. Further information on what data monitoring systems territorial authorities operate should be sought to see if collaboration could occur.

Frameworks provide focus

The case studies highlighted the value of frameworks. Developing a strategy before beginning monitoring helped focus efforts and make the best use of the resources available. The councils with frameworks had a focus to their monitoring effort. Integrated monitoring also made the best use of existing information and information gathering systems across different areas of the local authorities and with LTP processes.

National direction provides guidance

Guidance has been provided by the Ministry for the Environment in the form of the Environmental Reporting programme, the www.qualityplanning.org.nz website and through the requirements of the RMA Survey of Local Authorities. This guidance has led to a degree of consistency in the information collected by local authorities. However, all sitting separately and there is no framework between and across them.

National indicators framework

Environmental indicators are internationally regarded cost-effective and powerful tools for tracking environmental progress, providing policy feedback and measuring environmental performance. They are used to amalgamate data into measures in means they can be reported easily. The implications are however that they are also resource intensive in their development. The Ministry for the Environment has invested significantly over the years in indicator development. However, where indicators had been identified they were readily adopted by local authorities. Unfortunately not all features had nationally derived indicators, e.g. issues around the built environment such as heritage.

4.2   Weaknesses

We identify the weaknesses as follows:

Local drivers v national needs

The needs of the monitoring effort tended to be focused on locally driven issues. The likelihood that these were useful at a national level was only where the monitoring accorded with the monitoring agenda of the Government. Where an indicator was developed by central government it was generally adopted but there was still local variation to fit local needs, available budgets, monitoring techniques, infrastructure and reporting requirements (e.g. recreational bathing water quality reporting).

A balance is needed in reflecting the different needs of multiple users: operational versus Ministry for the Environment needs.

Inconsistent systems

The varied nature of systems was highlighted by the stock take report. There was variability across different parts of councils with systems not linked. Further, most councils systems were specific to that council, while others were comparable across councils, such as the Tech 1 data base. Hydrotel was common for telemetry information and Hilltop for air quality, water quality and water quantity.

The need to review and improve systems for data management is not limited to amalgamation process. Many systems should be reviewed now.

Incompatible data

Partly as a result of inconsistent systems but also as a result of raw data being rarely reported and made available, data tended to be incompatible when agglomerated - this limits its reuse. This limitation on reuse was commented on by the Parliamentary Commissioner for the Environment: *"The lack of standardisation of methods among data collectors is a major barrier to effective and efficient national environmental reporting and management."[1]*

The Ministry for the Environment in responding to the stock take noted that in response to environmental reporting requirements they tended to get data which was amalgamated and averaged. The assumptions around such data had to be determined to make honest comparisons.

Effort should be made to have data presented in standard formats, and users given direct access to non-aggregated forms of the data.

Few networks for territorial authorities

Regional councils had good networks for sharing of information, especially in the case of using the likes of the Land and Water NZ website. However, the aggregation of information by territorial authorities did not occur. They may tend to rely on secondary sources of information such as from Statistics NZ.

Quantitative versus qualitative

Most data collected tended to be quantitative in nature. Qualitative data was harder to identify and by its very nature more difficult to capture and use comparably. Qualitative data could lead to greater richness in our understanding of environmental issues.

Multiple initiatives

There were multiple initiatives across local government in achievement of the same ends.

Within the Ministry for the Environment and across government, there were a number of surveys and stock takes being undertake to obtain information that could help fill the gap of a lack of monitoring information. The stock take undertaken as part of this survey is case in point. However these exercises are more like point in time case studies or evaluations.

Inventory of who does what

It was not clear entirely who does what, both within councils and between councils. This plight is not only applicable to councils but also within the Ministry for the Environment. It was clear from the

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[1] Parliamentary Commissioner for the Environment (2010) *How clean is New Zealand? Measuring and reporting on the health of our environment*, April 2010

stock take that institutional knowledge resided with individuals and the stock take unearthed material that was not widely known, e.g. monitoring undertaken in accordance with Treaty of Waitangi obligations. Therefore while this is not just an institutional hazard - not limited to just these organisations - a clear monitoring framework may go some way to addressing this issue.

Further the stock take was only a limited study of the RMA monitoring effort. While a good representation the wider process and systems of central and local government may need to be explored in development and implementation so it understands and applies to all councils and government departments.

Monitoring local authority functions

It was apparent from the stock take that local authorities were not monitoring their transfer of powers and functions under ss 33 and 34 of the RMA. This is in contrast to the findings of the RMA Survey of Local Authorities which identified at least some monitoring of functions. It could be useful to understand why this monitoring was not being undertaken through further investigation. It may be this is considered as an administrative processes and as such some may have disregarded as a monitoring requirement under the RMA.

In this regard information systems that go on to inform many of the processes undertaken by council but that they may not be picked up if one looks just at monitoring systems. Information systems are there for multiple roles, not simply to house monitoring information. For example, the large process management database and file directory that the plan-making programme operates in my council, where the information held in these systems covers context, s 32 assessments, and content information about plan development through individual amendments (changes etc.).

4.3   Opportunities

We identify the potential opportunities as follows:

Central government direction

Expectations of central government need to be clearly articulated.

Government direction has worked in the form of the RMA (Water Metering) Regulations. This could be utilised more.

Getting consistency will be an on-going challenge and work happening under the National Environmental Monitoring and Reporting (NEMAR) Committee and the National Standards Environmental Monitoring (NEMS) Committee between the Ministry and regional councils can only but seek to improve collection and reporting of data in relation to water and hydrological monitoring.

The proposal for an Environment Reporting Bill is also a positive initiative and offers the potential for standardisation. The proposal would see the Parliamentary Commissioner for the Environment responsible for independently reporting on the state of the environment every five years. Regulations could be used to outline standardisation, something that guidelines have failed to deliver.

Direction on how baseline indicators relate to RMA processes should also be updated and looked at. Information contained on the quality planning website is stale and has not been updated for some time.

Integrated platforms (e.g. IRIS, LAWNZ, data.govt.nz)

The potential for networking is there. IRIS system is an example of a joint venture between regional councils (Northland Regional Council, Waikato Regional Council, Horizons Regional Council, Taranaki Regional Council, West Coast Regional Council, and Environment Southland) that looks to provide consistency across council process management. It will replace, in some cases, aging infrastructure with limited functionality.

There is also potential for integration across other existing platforms such as Tech 1, Authority and NCS.

A full inventory of councils data monitoring systems should be undertaken to identify if integrated platforms can be achieved – especially through shared services between territorial authorities.

National direction has also come from Land Information New Zealand from the Open Government Information and Data Re-use Work Programme, and the Department of Internal Affairs with the www.data.govt.nz website. However this has not been fully embraced as a platform for sharing information, as there are a number of potential constraints in achieving this opportunity across organisations including:

- different emphasis, needs and expectations from organisations in terms of outputs
- different levels of commitment and resourcing
- the complexity of environmental issues
- developing agreed indicators for matters without indicators

A full inventory of central government agencies' on-going activities and data sets would help identify opportunities. The stock take excluded some agencies, such as the PCE and Ombudsman who deal with complaint issues, and the Ministry of Health contracts Massey University Center for Public Health Research to run an environment health indicators programme (see www.ehi.ac.nz).

Long Term Plan linkages

The LTP, under the Local Government Act, was a mechanism used by some of local authorities as means of spelling out the monitoring strategy of the council. It has been used to good effect by these councils to spell out a practical and coordinated approach to planning and providing services. LTP measures help achieve support for monitoring in areas given the support and focus of the LTP by councillors/management. As such the advantage of the LTP approach is for spelling out the monitoring strategy as a living document updated yearly if needed, and linked to funding. This flexibility affords more flavour for emerging issues and council priorities than does an RMA plan.

The LTP approach also potential avoids duplication and promotes simplification of process. An alternative could be to spell out the monitoring in a separate monitoring document.

Providing better linkages between the monitoring requirements of the RMA and the LTP process should have some advantages.

Technology and tools of visualisation

RMA reporting is at times static and dull. Information collected should ensure it applies itself to a range of reporting requirements from technical reports to government papers, snapshots for the community and online up-to-the-minute info for recreational users. The data usability should be flexible and able to provide added value. There is now means to work on novel infographics and spatial representation of data sets using GIS. Data can be presented in a number of interactive ways. This can include static maps and tables or interactive online maps.

An excellent start has been the work in the development of the Land and Water NZ website (www.landandwater.co.nz). However, a good example of what potential can be developed at the moment is illustrated on the site http://stamen.com/.

Greater availability of data could promote its usage.

Local authority amalgamation and shared services

The challenges faced by the amalgamation that formed the Auckland Council were evident in the nature of responses in the stock take. There was still significant turmoil in the utilisation of data across many data sets. Amalgamation also presents opportunities and new ways of doing what has become a routine task. The Auckland Plan presents a novel way of expressing monitoring and links it to anticipated outcomes or targets.

Amalgamation or clearly defined shared services agreements could also address some of idiosyncrasies associated with individual council's approaches. A lot of momentum is happening on the shared services front.

A move to focus on outcomes

All policies and programmes should be subject to evaluative activity of some kind on a consistent nationwide basis. This may simply involve monitoring of activity levels and simple performance indicators. There is a push from central government for outcome monitoring and reporting, as part of the process of "managing for outcomes". This was documented in the stock take report with the outcome monitoring dash board adopted in the Ministry for the Environment's Statement of Intent 2011/12.

A move to an outcome focus, forces the regulator's need to constantly monitor and evaluate performance, which can only be a good thing to ensure proactive treatment of issues arising.

4.4   Threats

The following threats are identified as being present:

Requirements from national instruments

There was concern expressed in the stock take that the national instruments would require more from local authorities in terms of monitoring effort. As more national instruments are employed the monitoring implications should be given greater consideration, as was the case with national environmental standard for drinking water sources. There needs to be careful consideration of the value proposition to justify doing monitoring better. In this regard the Ministry for the Environment is in the process of identifying monitoring programme requirements for each of the national instruments. It has also prepared implementation guidance notes. While this presents a threat it also potential poses an opportunity to help identify how data can be better collected where it is needed.

Prescription of standards

There is a perception that prescription of standards by central government must come at a cost – associated with economic costs of more rigorous monitoring programmes. The view is held by those that are not aware of the future value of data and the power the standardised information can deliver, particularly in relation to better and more informed decisions about resources. It also enables reuse which will over time drive down costs. What is important however is that the transition maximise the utility from existing data.

Prescription could also reduce flexibility and agility to change to address emerging issues. Appropriate checks and balances are required to ensure alignment of issues at different scales – local, regional or national. Decisions will also need to be made as to whether a national picture requires standardised process and data or whether more basic comparable data that can be agglomerated at a high level might be fit for purpose.

Political buy-in

There is tendency for monitoring to be regarded as a drain on costs. Monitoring costs and often has little in the way of physical or tangible benefits, such as may come from other services. There is a need to see value for money. There is a difference between an ability to pay and a willingness to pay. The need to overcome such challenges and achieve political recognition of the benefits of monitoring was highlighted in the case studies report.

Cost

Although the stock take report was not definitively able to come up with a figure about the cost of monitoring at a national, regional or local level, it did identify that cost was a factor in the extent of monitoring undertaken.

The stock take report states:

"The cost of monitoring varied extensively with some smaller councils stating that monitoring costs were minimal or insignificant (this was most common under the policy/plan function). In some cases the costs were millions of dollars."

These cost constraints highlight the need for resource management agencies to work together to avoid duplication, achieve economies of scale and share costs wherever possible.

Increasing costs will also come from emerging issues. These include:

- information and modelling to support spatial representation of data
- expectation of continuous or live monitoring of natural resources
- emerging national needs around the development of evidence based policy
- open data agreements, such as the Government initiative for open access to data and use by agencies
- developing better / more indicators
- push from central government for outcome monitoring and reporting

Some of these could be addressed efficiently with appropriate technology and processes.

5   Spidergap Analysis

In this section we take a look at some critical success factors for monitoring against the information obtained in the stock take and prepare a spider graph or radar graph to highlight the gap analysis (or as we have dubbed it 'spidergap analysis'). We go on to describe assumptions we have made, as this process is somewhat subjective and based on our experience in being involved in case studies of the stage one – scoping process.

We consider the following ten matters are reflective of critical success factors for monitoring:

- Planned framework
- Aligned to outcomes
- Defined indicators
- Clear scope
- Infrastructure to support
- Clear accountability
- Capacity to implement
- Meaningful information
- Interoperability
- Resourcing

In Figure 4 we graph these success factors on a scale of 1 to 5 in terms of importance to the success of a monitoring programme - we identify these areas in blue. We then graph the current reality of monitoring based on the stock take - we identify these areas as yellow.

Figure 4: Spidergap analysis
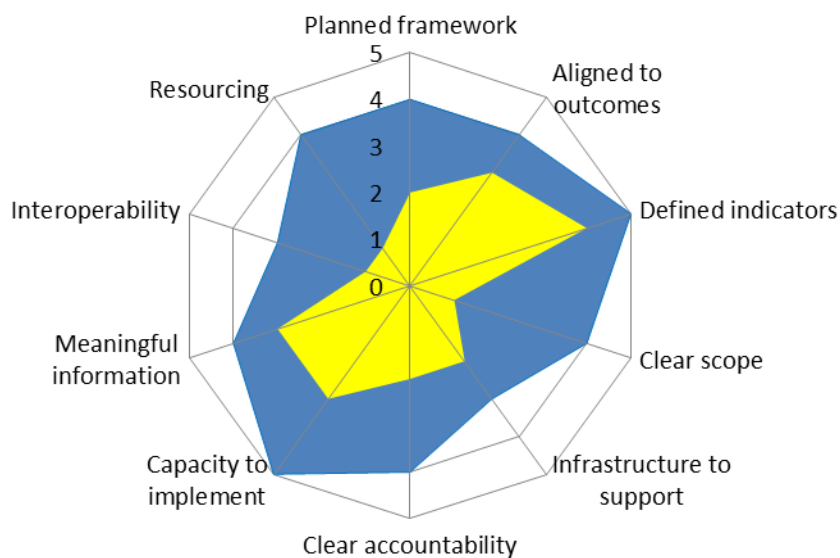
The assumptions we have made about reality versus importance are obviously debatable and their depiction is intended to provoke discussion. They do however highlight some obvious issues which we have already discussed in this report. The following explores these success factors more fully and the gap that exists between an ideal state and the current reality.

Planned framework

It is our view that a planned framework is necessary to establish the parameters of monitoring. A planned framework can come in the form of the LTP document prepared under the Local Government Act and therefore it is flexible in form.

The fact few councils and one government agency (the Environmental Protection Authority) that were surveyed as part of the stock take identified the existence of such a strategy as key, is far from best practice as advocated by the quality planning website.

Aligned to outcomes

Collection of data and information for the sake of data or process tracking is wasteful. Is all the information collected in the RMA Survey of Local Authorities of use? Or would we be better with a few more readily reported statistics, as was identified in the Victoria planning permit activity reporting system case study? This could align then with building consent information and provide valuable information on the state of consent activity and therefore economic activity.

Being clear on what is being monitored and why is important in developing a framework.

Defined indicators

The environmental reporting programme of the Ministry for the Environment, the environment health indicators programme run by the Ministry of Health and the collection of statistics by Statistics NZ has benefited from significant investment over the years. The implications are that we have well defined indicators that are SMART. But there are gaps in those indicators and there is a tendency for them to focus on natural resources and quantitative data, rather than the built environment and qualitative evaluations.

Clear scope

The monitoring of the effectiveness of implementing the RMA is but a subset of a larger monitoring, reporting and evaluation picture. Scope must also be rationalised so that monitoring does not become an unsupportable behemoth. Would you regard the monitoring of migrant bird species as being RMA monitoring? Probably not, but it may be an indicator of biodiversity - a matter of national importance under the RMA. In defining monitoring for an RMA purpose are we missing out of valuable information? This question seeks to determine what drives the monitoring and reporting and what the information will be used for - RMA functions or broader?

Infrastructure to support

It is clear that the collection and management of data requires IT infrastructure to support it. This can be as simple as an MS Excel spreadsheet to the complications associated with implementing the IRIS system or decimating and reusing data. We have highlighted a small gap on the graph. As technology changes and our ability to use information changes to mimic and understand complex natural systems, we see the gap remaining.

Clear accountability

There is a gap in who is accountable for collecting information, who manages that information, who uses that information and who read the end product. Greater governance structures are required to ensure best use of data. We see in the NSW Resource Monitoring Evaluation and Reporting Strategy significant effort gone into setting up and managing governance arrangements within the complexities of the NSW governmental system.

Capacity to implement

We see the capacity for some agencies to implement monitoring strategies, to collect information and to report to be severely limited. The small councils do not have capacity and default to only monitoring that required by central government. This is not just a resourcing (staffing) or financing issue, but sometimes a geographic spread issue, i.e. some councils cannot be fully expected to monitor many of their remote locations and get the samples back to the lab in time. A full geographic spread of natural resource monitoring is therefore also a physical impossibility for some.

Meaningful information

On the whole there is some valuable information available about the state of our environment and about the processes we use the manage it. But there is room for improvement.

The business case for collecting, analysing and responding to findings is lacking for environmental indicators beyond those identified by the 22 developed by the Ministry for the Environment. We need to develop measures for those that address community perception on the quality of urban systems, spaces and design. The qualitative based perceptions are essential in helping reach the value laden judgements required by the RMA.

Further action is needed to make local, regional, and national scale data accessible through interactive maps and pre-defined graphs, or via database files of primary data.

Interoperability

Interoperability is a property of data or a system, whose interfaces are completely understood, to work with other products or systems, present or future, without any restricted access or implementation. We are a long way from even meeting half the capability we need to achieve, as is evidenced by the lowest scores in the spidergap analysis for both achieving and current state of play.

Resourcing

We have covered costs before. It is clear that for many councils the issue of monitoring is an afterthought to the policy process – perhaps a reflection of why the information in the stock take for plan monitoring was the lightest in response. Alternatively, it may be that while there are statutory obligations, securing budget for monitoring has often not been achieved because of other council priorities. This is not helped in an environment where councils are under pressure to hold or reduce rate rises, and where the business case (i.e. the value justification) for monitoring is not well made, or difficult where case and effect and time lags between RMA interventions and outcomes span years.

In this regard, the Ministry for the Environment does not, at this point, intend to fund large scale monitoring but nor does it intend to impose extensive costs on local government in carrying out whatever monitoring may be required (by the eventual measures selected).

6 Information Gaps in Scoping – Potential Further Study

In this section we highlight the limitations across the scoping studies to show where further areas of consideration or information might potentially be usefully sought or watched as part of the process in Stage Two (design and development) and Three (implementation) of the Monitoring and Review Project. This will ensure a robust process can be taken to policy development without unexpected surprises.

In doing so we examined the following questions:

- What are the limitations, assumptions, and gaps in your evidence base?
- Do we need to signal anywhere where there is a lack of evidence, or where evidence may be biased or uncertain, or where opinion differs from the evidence?
- How might others respond to the limitations of the evidence?
- Do we need to gather more information, or should we use a precautionary or adaptive approach that will allow for a policy intervention to be assessed and adapted in light of new evidence?
- What are the emerging issues from across local authorities and government agencies?

Figure 5 outlines our assessment of the potential information gaps and answers the questions we have posed. Based on the importance of each information gap to policy development and evaluation and the practicality of collection, this report groups the information gaps into four categories.

The upper right quadrant of Figure 5 shows the information gaps that are of high policy importance and high practicality of collection, and therefore should be collected first. Conversely, the information gaps shown in the lower left quadrant are of least priority and low practicality of collection and should be collected last.

Figure 5: Prioritising information gaps
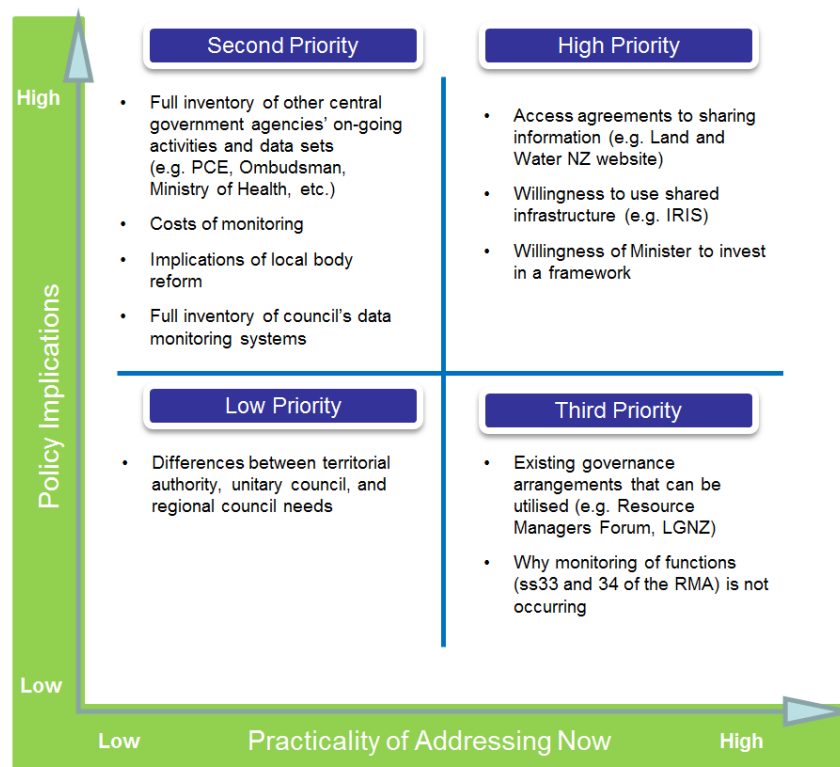
7 Conclusions

We have cut the gap analysis two ways in this report – the SWOT and spidergap analyses.

In this section we use the results of the gap analysis to define the problems we captured in the executive summary. We illustrate this through a fishbone diagram highlighting the focal problem (Figure 6). It identifies the root causes of the problem, rather than focusing on the practices.

Figure 6: Problem Analysis
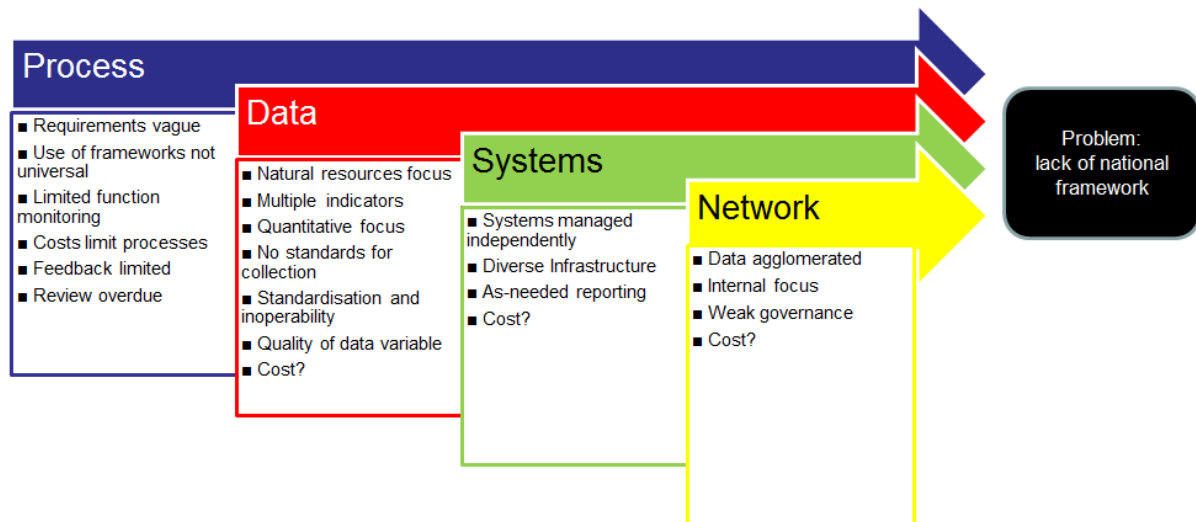
This fishbone analyses highlights a number of areas for addressing as part of the problem.

7.1 Processes problems

Processes often have vague requirements unspecified in detail by legislation, such as the requirements within s 35 of the RMA. Further clarification has come about through guidance and regulation. The needs analysis highlighted a multitude of potential monitoring needs. Only a few are prescribed by the RMA as needed. When it comes down to it, all some councils can do is the bear minimum and just follow what central government has requested from them.

There is little universal support or use of frameworks for monitoring. Best practice on the quality planning website advocates this as a starting point, yet few councils or government agencies have taken the effort to invest in the process or if they have, have not reviewed their approach and it is generally overdue for review. Cost of the preparing better for the monitoring process have potentially limited by costs of the processes.

The stock take identified that some councils miss some core monitoring requirements such as monitoring of functions. A greater understanding of why this is would be helpful to address the problem, but it not necessary for Stage Two – design and development– of the Monitoring and Review Project.

7.2 Data problems

Data problems are focused on natural resources monitoring at the regional council level – the regional councils have a better handle on the requirements and national guidance for indicators have promoted the focus on natural resources.

There are requirements for multiple indicators, only some of which have been developed. Limited work has been done of value laden indicators around urban environments. As a result the focus is on quantitative rather than qualitative values.

Efforts to gain support for standardised for collection of data continue to plague data presentation at a national level. This is potentially because standardisation has not been prescribed. Data is not shared at a raw data level.

7.3   Systems problems

Most systems, even within councils and central government agencies are managed independently of one another. This leads to incompatibility and data sharing being only at a high level. Systems are supported by diverse infrastructure too and rely on as-needed reporting.

7.4   Networks problems

Because of network integration problems there are problems with agglomeration of data. Most networks are driven by an internal focus rather than national needs. A weak governance structure has relied on ad hoc initiatives to link data. New initiatives are emerging however.

7.5   Cost problems

Cost is an overriding factor and limits the amount of monitoring undertaken particularly by small councils.

7.6   Summary

We are of the view that there are information gaps but these are not seen as needing to be filled before development of the policy response can proceed - they can be filled along the way.

The major conclusion that comes from this gap analysis is cost of monitoring and that a framework for monitoring the RMA should be developed before any determination be undertaken as to what is to be monitored, collected, stored and how that should be supported by systems and networks.

We in particular consider the Ministry for the Environment needs to be clear on the means by which it will establish a national monitoring framework to monitor the implementation and effectiveness of the RMA, and its functions, processes and tools.

A key question will be: what is the purpose, scope and content of the monitoring? It is suggested that until there is a much greater development of the answers to the question, in relation to RMA (activity and effectiveness) monitoring, evaluation and reporting, no council information network can be adequately evaluated as to its fitness for that purpose.

To answer this question, there are some lessons from the approach adopted by a number of councils who currently use the DPSIR model to identify and monitor environmental indicators. The DPSIR model is an extension of the pressure state response model developed by the OCED and can be categorised as 'driving force', 'pressure', 'state', 'impact', or 'response' indicators, according to the type of information it provides. Traditionally indicators are environment state or pressure only. Design of a monitoring framework should select and operate indicators to integrate across environment value, environment risk (the relationship between these can be seen as stressor or issue or problem indicators) as well as environment state. This approach can encourage and support decision-making, by pointing to clear steps in the causal chain where the chain can be broken by policy action. Figure 7 outlines the DPSIR framework as used by the European Environment Agency.

Figure 7: DPSIR framework
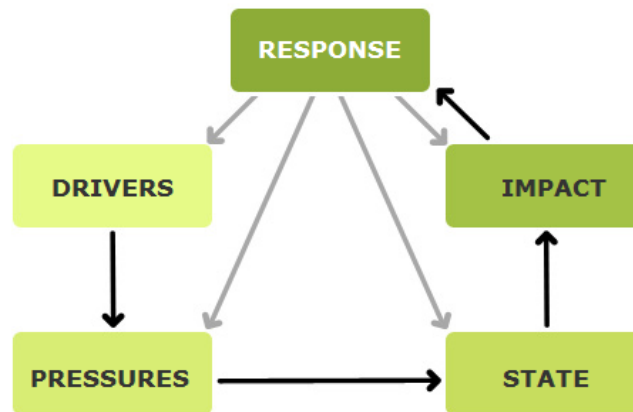
The DPSIR model is just one of the models that could be investigated, others are have been outlined including by the World Health Organisation (see: www.who.int/ceh/publications/cehframework/en/). All identify the need for clear feedback mechanisms. As such due consideration should be given to use of intervention logic as means to achieve outcomes based monitoring frameworks.

The intervention logic model identified in the case studies is seen as a good approach for informing the development of outcomes based monitoring frameworks. This identifies the inputs, outputs and short, intermediate and longer term outcomes anticipated from national planning processes in this case. Understanding the differences, nature and fit between various models used will be important in developing and achieving the intent of a national monitoring framework for the RMA.

The other observation we reach is that there are some critical measures of success for the Monitoring and Review Project. These are suggested as being:

- capture a broad range of economic, social and environmental effects
- be fit for purpose
- be capable of reporting at a range of spatial scales
- be proportionate to the spending on the programme
- consider the burden of data collection on those who will collect the data
- maximise utility from existing data
- reflect the different needs of multiple users: operational versus Ministry for the Environment
- be compliant with geospatial standards on data sharing and storing
- be capable of providing information to feedback to decision makers (real time reporting)
- be consistent with Ministry for the Environment requirements but flexible to meet local specific requirements
- encourage a partnership approach