



An evaluation framework for the ICMP programme

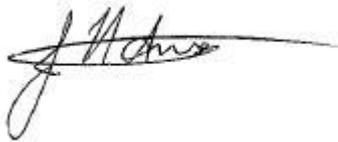
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An evaluation framework for the ICMP programme

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Prepared for
Auckland Regional Council

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Executive Summary

Stormwater is currently recognised as having the single biggest impact on Auckland's marine ecosystems and urban streams, which in turn has adverse impacts on the social, cultural and economic values of the regional community (Auckland Regional Council, 2005). To help address this problem, which is exacerbated by sustained urban growth, the Auckland Regional Stormwater Action Team was launched in early 2005. It comprised five workstreams deemed to be fundamental in delivering a successful regional catchment management programme.

This framework was commissioned by the Auckland Regional Council's Integrated Catchment Management Plans (ICMPs) workstream team, and seeks to enable an evaluation that looks across the breadth of the workstream and identifies progress made in delivering workstream outputs and achieving desired outcomes.

The framework has been jointly prepared by consultants working with ICMP workstream team members and their internal and external stakeholders. The tasks were to:

- identify international and local best practice to inform the evaluation process;
- develop logic models that describe the workstream, its main activities and the outcomes it is intended to support;
- develop a comprehensive set of evaluation questions and indicators that could be used to track progress, including data sources and collection approaches; and
- select key indicators to provide a monitoring and evaluation framework that can be used to carry out a formative and a summative assessment of ICMP workstream progress and effectiveness against the relevant statutory and non-statutory strategic objectives, as well as being suitable for ongoing use.

Logic models are a graphical representation of the main elements of a programme. They describe in concise terms how a programme operates, and illustrate the outcomes and impacts it aims to deliver or support. This framework has four logic models, one describing the workstream as a whole, with the other three describing the main groups of activities that contribute to the workstream's overall success. These three groups of activities relate to:

- promoting good ICMPs;
- funding the preparation of ICMPs; and
- building awareness, relationships and alignment amongst ICMP stakeholders.

A key deliverable of the project is a process for assessing ICMPs. This is the first step in a major exercise in building the capacity of the region's wider catchment management industry in line with New Zealand best planning practice. A draft plan assessment process has been developed, and it could be further developed and trialled with regional stakeholders within and beyond the Auckland Regional Council as a way of collaborative learning and team-based capacity-building.

Evaluating plan outcomes is a fledgling area of practice for environmental managers. In order to build institutional expertise and produce manageable-sized results that can be

incorporated into the plan review process, it is therefore better to start with small projects and experiment with a mix of qualitative and quantitative methods. The approach acknowledges that many (if not most) evaluation plans fail because they are too ambitious. A pragmatic approach therefore focuses on high priority activities where evaluation effort can be most effectively targeted and where the data produced will be most valuable in the short to medium term for making adjustments to the ICMP workstream strategy. The framework is a very simple one that can be further developed over time so that the ARC and its internal and external stakeholders become progressively more confident and competent with logic models and programme monitoring and evaluation.

1.1 Abbreviations

ALW	Proposed Auckland Regional Plan: Air, Land and Water
ARC	Auckland Regional Council
ARH	Auckland Regional Holdings
CMP	Catchment management plan
ICM	Integrated catchment management
ICMP	Integrated catchment management plan
LATE	Local Authority Trading Enterprise
LGA	Local Government Act 2002
LTCCP	Long term council community plan
MBLs	Multiple bottom lines
PEST	A situation analysis of four external contexts that affect an organisation: Political/legal, Economic, Social/demographic and Technological
PUCM	Planning under co-operative mandates, a FRST-funded research programme into the preparation and implementation of plans prepared under the RMA and LGA.
RMA	Resource Management Act 1991
SWAT	The Stormwater Action Team of the Auckland Regional Council
SWOT	A situation analysis of four internal contexts that affect an organisation: Strengths, Weaknesses, Opportunities and Threats
TA	Territorial local authority (city or district council)

1.2 Definitions

To promote consistent understanding of terms, below is a glossary of key terms as they are used in this report. A longer list is in Appendix 1.

Bottom lines	Triple bottom line is a management framework that allows an organisation to explicitly assess its economic, ecological and social performance. Quadruple-bottom-line assessments include cultural performance. The terminology of 'multiple bottom lines' has been adopted for this report to avoid the debate that sometimes takes place about the respective merits of triple versus quadruple frameworks. Figure 4 explains the six bottom lines used for this evaluation.
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Strategic objectives	Strategic objectives define the high-level outcomes sought by the national, regional and territorial legislative, planning and other instruments that influence an ICMP as it is being prepared. These strategic objectives are not necessarily intended to be measurable. Refer to Appendix 2 for a list of these objectives.
Operational objectives	Operational objectives set out the practical tasks that an ICMP recommends, and that are implemented by influencing other instruments. For the purposes of this project, these are intended to be measurable, either as expressed in an ICMP or its associated programme of works.
Programme logic	A body of academic and applied theory that explains how programme activities lead to a programme's desired outcomes by conceptualising and testing the causal linkages in a programme.

1.3 Acknowledgements

The interpretations, findings and recommendations in this report were developed with the help of both internal and external stakeholders in the Auckland Regional Council's ICMP workstream.

2 Introduction

2.1 Project context and deliverables

The Auckland Regional Council's (ARC's) Integrated Catchment Management Plans (ICMPs) workstream strategy (ARC, 2005) sets out the context for the ICMP workstream. It acknowledges the ICMP Funding Guideline (ARC, 2006) and the importance of committed partnerships and potential hindrances to success, and as well as the objectives listed below, describes target audiences and team links; key outcomes and measures of success; and resources and activities.

The strategy states that the key objectives of the ICMP workstream are to:

1. raise the bar with respect to stormwater planning and future stormwater management and to increase awareness of water quality and aquatic habitat issues;
2. ensure a consistent approach to and standard of integrated catchment planning across the region;
3. allow the ARC to provide assistance, in the form of funding, to TAs to ensure that the first two points are met; and
4. form the technical basis for future network consents; and
5. form the basis of implementation of stormwater management for each TA in a co-ordinated manner.

Now that several integrated catchment management plans have been prepared by territorial local authorities (TAs) in the region, the Auckland Regional Council (ARC) considers it timely to evaluate how well the ARC has been able to assist their development, and how well they meet the relevant statutory and non-statutory requirements, as well as the objectives above. This project sets out an evaluation programme that can be used by the ARC's Stormwater Action Team (SWAT) to monitor and evaluate what they have been doing and what they plan to do in the future.

The evaluation needs to consider two catchment planning phases in the Auckland Region:

- the catchment management plans (CMPs) initially developed under the Soil Conservation and Rivers Control Act 1941 and the Water and Soil Conservation Act (WSCA) 1967, and subsequently under sections 14 and 15 of the Resource Management Act (RMA) 1991 and the Auckland Transitional Regional Plan (these plans focused on water quantity issues); and
- the integrated catchment management plans (ICMPs) prepared under the RMA and the ARC's ICMP strategy, including progress made since formation of the Stormwater Action Plan. These plans have widened their focus to include water quality and ecological as well as amenity and other issues.

2.2 Methodology

A participatory approach to the project tasks was chosen, including reviewing catchment management plans, developing a logic model for the ICMP workstream strategy and three sub-models for the key workstream activities, conducting a literature review, facilitating two active workshops with a range of Auckland Regional Council staff, conducting one-on-one interviews with TA staff, and carrying out additional local and international research. These are summarised next (a more detailed project methodology is set out in Part B Appendices).

2.2.1 Review catchment management plans

Catchment management planning is not new in the Auckland Region. The Soil Conservation and Rivers Control Act 1941 and the Water and Soil Conservation Act 1967, and subsequently sections 14 and 15 of the Resource Management Act (RMA) 1991 and the Auckland Transitional Regional Plan provided for their preparation in order to alleviate flooding and enable the issuing of water rights for so-called 'comprehensive catchment stormwater discharges'. They therefore focused on flood management and stormwater quantity management. Although stormwater was managed as if it were 'clean' water, it was known to be otherwise (Tim Rix-Trott, pers. comm.), but tools were not readily available to provide for water quality and ecological considerations.

In order to provide a benchmark for the subsequent development of the integrated catchment management plans (ICMPs) prepared under the RMA and the ARC's ICMP strategy, a total of 51 catchment and/or flood management (ICMP) plans in the ARC and Manukau City Council offices were reviewed to ascertain their respective objectives and how well the plans met these (see Appendix 3). The CMPs were generally considered to have met their flooding and water quantity objectives very well. A key finding was that plans prepared since the passage of the RMA show an increasing awareness of water quality issues and social amenity over time, although none of the sets of objectives would today be considered to cover all the information considered necessary for an ICMP.

2.2.2 Develop structure and logic models

A list of ICMP activities was developed by meeting with the SWAT, facilitating two internal stakeholder workshops to help develop logic models and seeking the help of the SWAT with developing logic models using a structured worksheet approach. Because a formative evaluation will benefit all those involved in ICMPs in the Auckland Region, two workshops were held with ARC staff from the SWAT and other parts of the council to populate the model (including its orders of outcomes).

2.2.3 Workshops with ARC staff

As well as a series of meetings with the SWAT, two 2-hour workshops were held with the team and key ARC internal stakeholders to help develop the evaluation framework. The workshops were:

- a scoping workshop to elicit from key ARC stakeholders their vision and aspirations for the Strategy for the ICMP workstream and views and expectations of it; identify key ARC ICMP activities; enable ARC staff to become familiar with programme logic and

orders of outcomes models; and gain agreement on details of the collaborative process and timeline; and

- an applied workshop to identify good indicators of progress towards the outcomes of key ARC ICMP activities based on the logic model in Taylor-Powell (2002).

2.2.4 Interview territorial local authority staff

In addition, a series of one-on-one meetings and telephone interviews were held with staff of all seven territorial local authorities (TAs) to:

- identify indicators or categories of indicators as perceived by them for the key ARC ICMP activities;
- re-acquaint them with programme logic and orders of outcomes models; and
- introduce them to the idea of developing evaluation frameworks for their own ICMP work programmes.

Each of these interviews took an hour or more, with key evaluation indicators and suggestions incorporated into this framework.

2.2.5 Local and international literature review

As part of this project additional literature reviews were undertaken into logic models, orders of outcomes, development of indicators, outcome monitoring frameworks, policy cycles and best practice examples of logic models and evaluation of environmental programmes. Results are summarised in section 2.4.

2.3 Evaluation approach and aims

This project aims to develop a framework that will enable the SWAT to work with its internal and external stakeholders to conduct appropriate evaluation activities that ensure accountability and improve the programme over time. This project identifies a number of useful questions and indicators across a range of activities, some of which will be used by the SWAT and others by other parts of Council and other stakeholders, while others may need independent specialists to measure.

Organisations like councils are highly dynamic, with many people and a rich diversity of activities, some of which cross many policy frameworks and may even compete with each other. That creates complexity. Evaluation programmes that help improve the implementation of such policies therefore need to consider:

- the need to measure the progress of both task and process in collaborative initiatives;
- the value of participatory approaches in order to gain the buy-in and relationship-building that is needed for such collaborative initiatives, and the importance of stakeholder engagement;
- the need to provide for learning and adaptation to new challenges and new opportunities;

- indicators that can reflect the different reasons groups participating in a collaborative initiative will have for being there;
- the need for evaluation frameworks that enable evaluation over time, because the ICMP workstream seeks to evaluate changes in institutional cultures and practices, and these changes take time; and
- the policy cycle model, which acknowledges that successful programmes advance and change through successive policy cycles of planning, implementation and reassessment. Successive generations of such a programme address an expanding agenda of issues and/or a larger geographic area. The key is to start small, and learn the way to expand the programme over time.

In particular, the SWAT wanted the evaluation framework to incorporate the Olsen (2003) and UNEP/GPA (2006) orders of outcomes model, which enables the measurement of outcomes over long periods of time through the sequence of institutional, behavioural and social/environmental changes that can lead to more sustainable development.

The SWAT also wanted the evaluation framework to enable measurement of progress towards sustainability across multiple bottom lines – wider than just the environmental bottom line.

Some of these key considerations are briefly reviewed in section 2.4.

On the basis of these considerations, the project team has adopted a participatory approach to developing the evaluation framework, and is combining both formative and summative evaluation approaches summarised below:

- participatory (collaborative) evaluations mean the people who are involved in or affected by a project take part in the design and implementation of the monitoring and evaluation process, with benefits including enhanced learning, capacity-building, empowerment and commitment of all players (Woodhill and Robins, 1998). Hence the project team includes the client, with other internal and external stakeholders also being involved in the project, as staff of both the ARC and the TAs are engaged in ICMP work;
- formative (real-time or process) evaluations are done while a programme is under way in order to produce results that enable modifications to be made to the ongoing work (Rugh, 2002). Formative questions help managers improve their programme by focusing most on programme inputs, activities and short-term outcomes. Formative evaluations will help the SWAT to generate periodic reports that can be shared quickly, monitor progress and make mid-course corrections when needed; and
- summative (impact) evaluations focus mostly on intermediate and longer term outcomes. They focus on the difficult questions such as what happened to programme participants and how much of a difference the programme made. Impact or outcome evaluations are undertaken when it is important to know how well a funder or community's objectives for a programme were met, or when a programme is an

innovative model whose effectiveness has not yet been demonstrated. A summative evaluation will help to generate information that the SWAT can use to demonstrate the results of their activities to funders and the wider community.

The evaluation framework thus aims to promote:

- accountability, by evaluating the efficiency and effectiveness of the ICMP workstream; and
- continuous improvement, by engaging internal and external stakeholders in the process.

One of the benefits of formative evaluations is that they enable other questions and objectives to arise as all stakeholders have the opportunity to reflect on their work. As the evaluation is actually carried out, these questions/objectives should be documented (see section 4), for further consideration by all stakeholders as part of making any adjustments to the ICMP strategies and activities undertaken and promoted.

2.4 Literature review and key methodological considerations for the project

This section briefly overviews the following key findings of the literature review and the SWAT's aspirations that influence the development of the evaluation framework:

- stakeholder analysis;
- logic models;
- orders of outcomes;
- multiple bottom lines;
- the policy cycle.

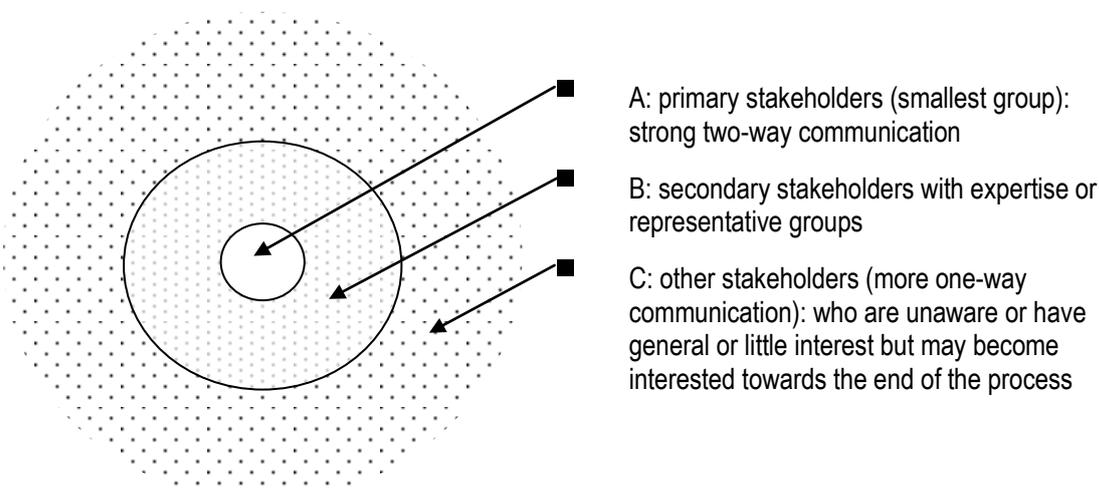
Appendix 4 contains more information about logic models and the links between logic models, orders of outcomes and policy cycles.

2.4.1 Stakeholder analysis

Identifying and analysing the needs of stakeholders is crucially important for the programme, because they are the people whose changes in practice will bring about the positive benefits desired by the ICMP workstream. Stakeholder analysis informs a programme's activities by identifying a project's key stakeholders and assessing their interests and how those interests affect project riskiness and viability. It contributes to project design by identifying the goals and roles of different groups, and by helping to formulate appropriate forms of engagement with these groups (Allen and Kilvington, 2001).

Figure 1 Categories of stakeholders

Source: Newcastle City Council, 2000; Kilvington and Allen, 2007



Not all stakeholders are equally affected by or interested in a given issue. Figure 1 shows that they can be grouped into three broad categories based on their level of interest and how much they will be affected (Newcastle City Council, 2000):

- primary stakeholders: people and organisations with a key role (e.g. in funding), an active interest or who are directly impacted physically, socially or financially. Usually the smallest group in terms of numbers, they may have strong views and want to be involved in all phases of the project;
- secondary stakeholders: interested groups and individuals who will play an active role because they have particular expertise or represent affected parties. They include residents groups, government agencies, experts, lobby groups and so on. These stakeholders are likely to attend meetings, provide written feedback and be interested in the results of the process; and
- other stakeholders: those with only a general interest in the project or little interest in the outcomes who are less likely to engage in consultative processes. Most will only want basic information and are unlikely to be interested in details, but some may develop intense interest towards the end of the process, and, if not engaged from an early stage, may become oppositional. Unengaged stakeholders include those who are uninformed about but affected by the project (Davis, pers. comm., 2007). Group C are the most difficult group to engage with because of their lack of interest, awareness, opportunity or access, but they are also “the group most likely to drift into groups A and B in the later phases of a project, having become aware that what has been proposed will have an impact on them in the longer term. This will have a significant impact on the project if not properly planned for” (Newcastle City Council, 2000). This may be the case even if the long term outcomes will be beneficial, because individuals, groups and communities may want to take part in the catchment planning process.

The ARC's 2005 ICMP strategy identified the following internal and external audiences and team links:

- external audiences:
 - the region's seven territorial authorities (Group A);
 - council utilities and local authority trading enterprises (LATES), including Watercare Services Ltd, Metrowater, Manukau Water and United Water (Group A);
 - infrastructure maintenance providers (Group B);
- internal audiences and team links (also Group A, with some in Group B):
 - other members of the Stormwater Action Team ("SWAT"); and
 - consenting teams, particularly staff and consultants processing network discharge consents.

More recently the SWAT has refined these groups to include:

- other audiences within TAs, including elected representatives, asset managers, planners, parks and roading staff as well as stormwater and wastewater engineers, who could fall into Group B;
- funding providers in Auckland Regional Holdings (ARH) (Group A);
- the consultants and researchers providing professional services to the ARC and TAs (likely to be Group A stakeholders); and
- other audiences within the ARC, including elected representatives, senior management, policy planners, parks and transport staff; these are likely to be Group B stakeholders.

Feedback from ARC and TA staff indicates that Group B and C stakeholders could also include:

- developers and their professional advisers, who are sometimes actively engaged in the ICMP process;
- council community liaison and community development staff;
- environmental education staff;
- community support groups such as Waicare; and
- communities, who are also affected as they pay rates and other fees for the services delivered through ICMPs and derive the benefits of improved multiple bottom line outcomes.

2.4.2 Orders of outcomes

Outcomes that take time to become evident have been classified into orders of outcomes (Olsen, 2003 and UNEP/GPA, 2006) that acknowledge the temporal dimension of successful integrated catchment management. The orders enable the measurement of outcomes over

long periods of time through the sequence of institutional, behavioural and social/environmental changes that can lead to more sustainable development.

Identifying the range of outcomes that support evidence of good policy and practice in complex social and environmental situations is challenging, not least because results in these areas often take some years to materialise. Accordingly it is good to visualise outcomes that can be seen to form a logical sequencing over such time periods. One such approach for grouping the outcomes of an integrated governance initiative is known as the Orders of Outcomes model. It highlights the importance of changes in state (such as better environmental or social outcomes), but recognises that each change in state is associated with changes in the actions of key human beings. Importantly, the model helps plan activities in sequence so they build on each other over time, as shown in Figure 2.

2.4.2.1 Enabling conditions

First order outcomes are the organisational conditions that must be present at the start of any programme to successfully bring about a change such as those envisaged by ICMPs. First order outcomes include the institutional and societal conditions that must be present for a plan to succeed in getting a sustained plan of action carried out to influence the course of events in an ecosystem. The setting of clear, measurable goals is a key element. For ICMPs, such “enabling” conditions would include:

- government commitment: mandate, authority to act;
- institutional capacity to act;
- management plans adopted with measurable operational objectives;
- endorsement by local, regional, catchment/other constituencies; and
- secure funding.

2.4.2.2 Changes in practice

Second order outcomes are evidence of successful plan implementation such as collaboration among institutions or funding provision. These outcomes reflect stakeholder uptake as evidenced by observable changes in practice by institutions, stakeholder groups and individuals, such as:

- evidence of new forms of collaborative action among stakeholder groups;
- changes in practice of actors in response to policy, regulation or voluntary initiatives;
- investment strategies affecting infrastructure; and
- institutional capacities and practices directly affecting resources of concern;

2.4.2.3 The harvest

Third order outcomes are the socio-economic, structural and environmental results that define the ultimate success or failure of the programme. These must be defined in unambiguous terms early on in any management process: vague or conflicting goals produce inefficiency and ineffectiveness and make it difficult to assess a programme’s effectiveness.

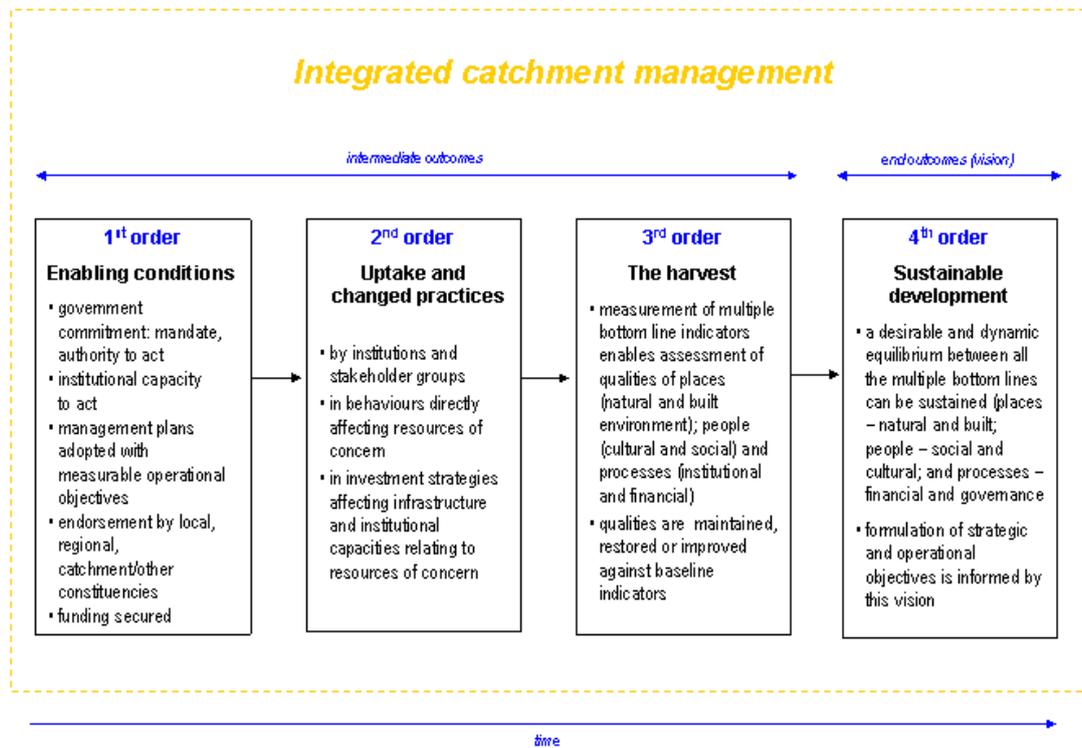
Third order outcomes characterise the achievement of identified human and ecosystem objectives or targets, or the rewards of the sustained behavioural change by the institutions, groups and people concerned. Indicators of third order outcomes include multiple bottom line indicators that enable assessment of the qualities of places (natural and built environment); people (cultural and social) and processes (institutional and financial) – the considerations listed in the RMA and the four LGA well-beings. Termed “the harvest”, improved third order outcomes show that qualities are maintained, restored or improved against baseline indicators of the state of the environment, quality of life and other multiple bottom line indicators.

2.4.2.4 Sustainable development

In the end all of our different activities and policies collectively contribute towards an enhanced future. This ultimate vision or goal of sustainable urban development is recognised as a fourth order outcome. Rather than being seen as a state that we are currently able to define and achieve in measurable terms, sustainability is better viewed as a desirable and dynamic relationship that can be sustained amongst all the multiple bottom lines, including people and the environment. Formulation of strategic and operational objectives can be informed by this vision, as it is sometimes useful as a goal. In this sense, then, we come full circle and acknowledge policy development as an ongoing iterative process, with continuous policy cycles.

Figure 2 Orders of outcomes model approach to monitoring and evaluation

Source: Adapted from Olsen (2003) and UNEP/GPA (2006)



2.4.3 Logic models

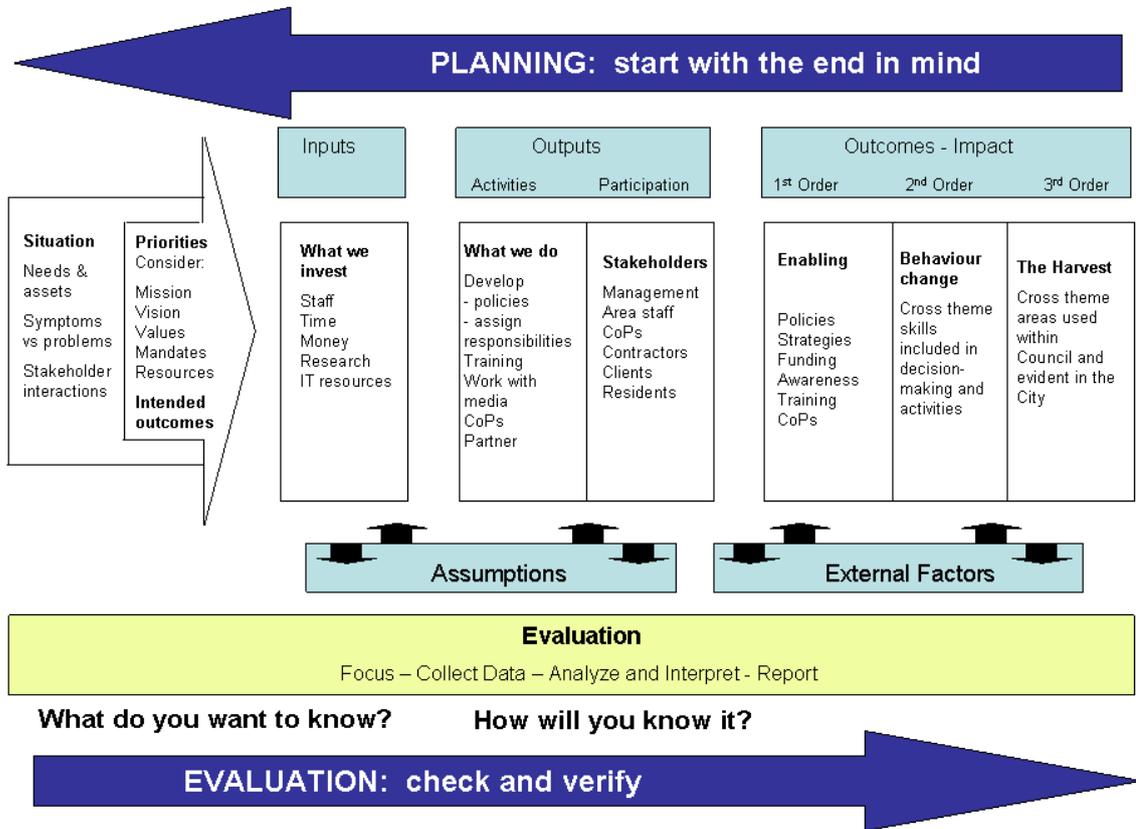
The starting point for introducing challenging programmes that cut across many workstreams and departments is to find ways to articulate and guide planned activities, especially those aiming to disseminate information and encourage its use. Tools are needed that simply and clearly set out, document and communicate complex programme goals, activity strategies and intended outcomes. Logic models can do this by encouraging people to plan for results by envisioning a 'big picture' view of a project's scope of work and key outcome areas. They also enable helpful checks on the internal logic of a programme.

Logic models are narrative or graphical depictions of real-life processes that communicate the underlying assumptions upon which an activity is expected to lead to a specific result. They illustrate a sequence of cause-and-effect relationships, or in other words, a systems approach to communicating the path toward a desired result. The model describes logical linkages among programme resources, activities, outputs, and audiences, and highlights different orders of outcomes related to a specific problem or situation. Importantly, once a programme has been described in terms of the logic model, critical measures of performance can be identified. In this way logic models can be seen to support both planning and evaluation, as shown in the example in Figure 3.

Figure 3 Example logic model for programme planning and evaluation

Source: Adapted from Taylor-Powell, October 2002

Note: CoPs = communities of practice (see Glossary)



The logic model of the ICMP workstream strategy was based on best practice examples including Treasury Board of Canada (August 2001); Taylor-Powell, Ellen (October 2002); W.K. Kellogg Foundation (January 2004); Watson et al (September 2004); and Waitakere City Council, (September 2006). There is more on logic models in Appendix 4.

Best practice as outlined by Watson et al (2004) also indicates that for a logic model to be useful in planning, implementation, analysis and evaluation, it must be designed in consultation with stakeholders – people using it, implementing and evaluating the plan, and affected by or interested in its outcomes. This approach was adopted for this project.

Outcome-focused logic models differentiate between areas of control and areas of influence, as well as the concepts of efficiency and effectiveness (Watson et al. 2004). Inputs, outputs and some first order, or short-term outcomes are areas in which the ARC has a large degree of control, while wider outcomes are areas of influence. Efficiency, the extent to which the ARC produces its outputs, is a function of inputs and activities. Effectiveness, in contrast, is the extent to which the organisation succeeds in delivering its planned results. This is a function of outputs and outcomes. As one moves along the logic model the degree of influence of the ARC diminishes (although as a catchment researcher and regulator, it also is an active agent as well as a catalyst). Intermediate and long term

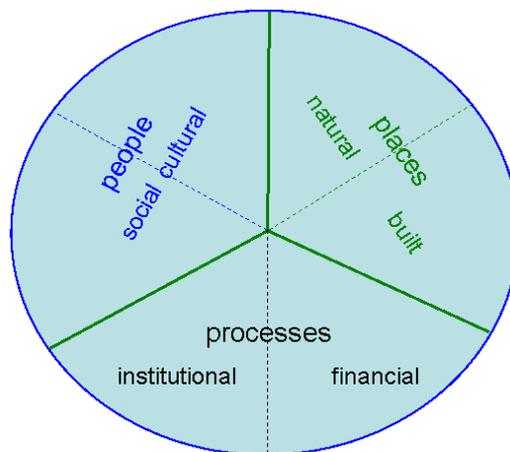
outcomes are also strongly influenced by factors beyond the control of ARC, but it is still important to include them in the model to ensure that the programme model highlights and focuses on results for the Auckland Region.

2.4.4 Multiple bottom lines

The SWAT also wanted the evaluation framework to enable measurement of progress towards sustainability across multiple bottom lines – wider than just the environmental bottom line. Those developed by Kettle (2006) and suggested for use in ICMPs in TR2009/077 and TR2009/078 have been used for this project. Appendix 2 contains a report on objectives and policies which have implications for the preparation of integrated catchment management plans. Figure 4 illustrates the multiple bottom lines (MBLs) considered. The evaluation framework has been set up so as to enable the SWAT to identify how their programme is meeting these objectives.

Figure 4 Multiple bottom lines for integrated catchment management

Source: Kettle, 2006



2.4.5 The policy/project/programme cycle

The policy cycle model acknowledges that successful programmes advance and change through successive policy cycles of planning, implementation and reassessment.

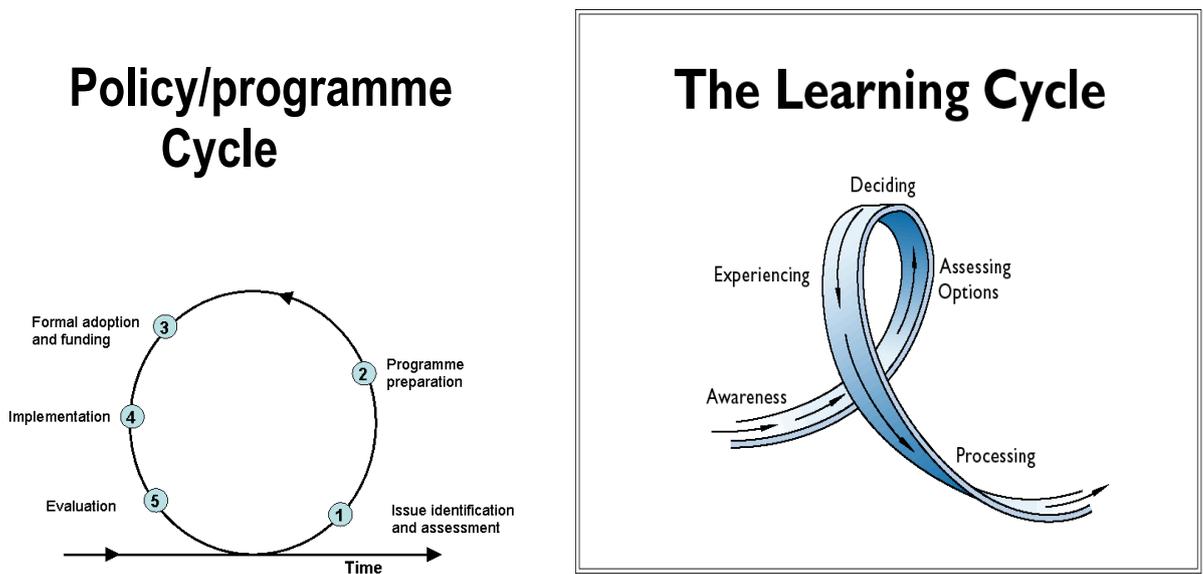
The policy or management cycle places the many actions of policy making, implementation, and evaluation into a sequence and stresses the interconnections and interdependencies between different groups of activities. Figure 5 reminds us that policy making is a learning process; that it is carried on and adapted over time. The emphasis on sequence does not imply a blueprint that can be imposed on any situation, but, rather, outlines good practice that encourages thinking through the realities of practice and culture change. The concept of the policy cycle highlights that sustained advances will be achieved through a sequence of connected efforts, not by the construction of a silver-bullet operation that once in place will transform unsustainable practices into sustainable development.

There are many variations in how the policy cycle model can be adapted to the introduction of an integrated policy framework or a complex programme, project or other initiative, but the central idea of a multiple-step cycle of planning–commitment–implementation–evaluation remains constant. It visualises a sequence of interconnected completions of a stepwise cycle, where each cycle can be thought of as a ‘generation’ of a programme. Successive generations of such a programme address an expanding agenda of issues and/or a larger geographic or institutional, area.

The key is to start small and learn how to expand the programme over time.

Figure 5 Policy/project/programme and learning cycles

Source: Will Allen, 2007 (policy cycle) and Olsen, 2003 (learning cycle)



There is more in Appendix 4 on links between policy cycles and logic models

3 Logic models and evaluation questions for the ICMP workstream

The SWAT carries out a wide range of activities to meet the workstream objectives listed in section 2.1. During the course of a workshop with internal ARC stakeholders, it became clear that the large number of activities made it difficult to assess in a cost-effective way how they were helping to meet those objectives. By consensus, they were therefore grouped into three main categories:

- preparing good plans;
- funding plan preparation; and
- building relationships and increasing awareness and alignment.

Four logic models were developed; one for the programme as a whole, and one for each of the three main activities undertaken within it. Together, these four logic models provide a comprehensive but simplified overview of the range of activities undertaken within the ICMP workstream. Each model includes an analysis of the enabling conditions resulting from each activity, as well as of the uptake by TAs and other stakeholders and the short, medium and long term outcomes.

These models were developed in conjunction with the ICMP workstream team by:

- undertaking a literature review of ICMP documents (this list generated the many activities undertaken by the group);
- facilitating an introductory workshop session with a wide range of ARC staff to introduce the concept of logic models;
- facilitating an ARC staff workshop to discuss and develop some initial logic models;
- carrying out individual work on logic models, evaluation questions and indicators by ICMP workstream staff based on the worksheet template in Appendix 5;
- synthesising the results by the evaluation team and report authors.

The ARC ICMP workstream team suggested the following questions would help assess how well it has met its five workstream objectives (section 1.1):

1. how well did the old CMPs meet the strategic objectives in the relevant statutory and non-statutory documents of the time?
2. how well do the new ICMPs meet the strategic objectives in the relevant statutory and non-statutory documents that the ARC and TAs in the region must meet?
3. to what extent has ARC funding to date resulted in better stormwater outcomes or the potential for this?

4. what opportunities are there to target the remaining funding more tightly to achieve the workstream objectives?
5. what progress has been made towards meeting the objectives of the ICMP workstream strategy?

Questions 1-4 have been included in the evaluation questions for the relevant activities discussed in this section. Question 5 is the overall question that the evaluation framework aims to answer, and is hence included in the evaluation report narrative suggested in section 4.1.

3.1 ICMP workstream

The results-based logic model for the ICMP workstream strategy is described here and illustrated in Figure 2.1. Evaluation questions are listed in Table 2.1.

3.1.1 Workstream context and goals

These are defined by the situation analysis, vision and strategic objectives.

3.1.1.1 Situation analysis

The situation analysis draws on the ICMP workstream strategy (ARC, 2005). It acknowledges that stormwater is recognised as having the largest single impact on the quality of the receiving environments in the Auckland region. At the same time Auckland is growing, and growth and urbanisation contribute to increases in stormwater runoff, sedimentation and contaminants, as well a compromising ecological quality. This also notes that an integrated management approach is called for and that ICMPs can help develop this. New sustainability strategies mean the situation is constantly evolving, and along with other players, the ICMP workstream team needs to continually adjust and adapt to this.

3.1.1.2 Vision

The vision is drawn from the first workshop with a range of internal ARC stakeholders, and similar views were expressed by external TA stakeholders during one-on-one interviews:

“A catchment management approach to planning in which excellent ICMPs promote streamlined regional/territorial land use/asset planning and management that delivers a unique and outstanding environment and other community benefits across multiple bottom lines.”

This vision is proposed as a draft statement of Olsen’s 4th order (sustainability) outcome.

3.1.1.3 Strategic objectives

This model recognises that the main driving strategic objectives for the ICMP workstream come from the RMA, LGA, Regional Policy Statement (RPS), Proposed Regional Plan Air, Land and Water (ALW), the Auckland Sustainability Framework (ASF) and other statutory

and non-statutory documents. In addition at a more immediate scale the activities are driven by the strategic objectives from the ICMP workstream strategy (ARC, 2005).

3.1.2 Workstream inputs

The SWAT has two staff with funding for the preparation of ICMPs as leverage and a range of tools as resources. It also draws on the links and synergies it has with other ARC teams.

3.1.3 Workstream outputs

Outputs comprise workstream activities and the stakeholders involved with these. Activities are the link in the logic chain by which outcomes are achieved. The workstream activities collectively contribute to delivering improved ICMPs with the following indicative relative emphasis in terms of allocation of workstream resources and focus of evaluation effort:

40% on good plans;

30% on funding; and

25% on building relationships, awareness, linkages and alignment.

The outputs of these three activities create the outcomes of the workstream as a whole.

However evaluation questions have also been identified for the ICMP workstream strategy separately from its constituent activities because it contains some strategic considerations affecting the programme as a whole, which are not contained in the individual activities. The allocation of programme and evaluation effort is therefore only indicative because some time is also needed to maintain a strategic overview of the three activities as a group together with how they fit with other activities in the SWAT programme as well as with wider ARC, TA and collective regional initiatives.

Time for programme evaluation is also needed, which is recommended to be at least 5% of project time (Paine, 1999). Together these requirements could thus require at least 20% of the overall programme time.

The stakeholders as described in section 2.4.1 fall into three main groups:

- primary: e.g. councillors, other ARC teams, TAs, utilities, LATES;
- secondary: e.g. council community liaison and community development staff, the development sector, as well as others including industry and community groups; and
- other stakeholders (more one-way communication): who are unaware or have general or little interest but may become interested towards the end of the process.

3.1.4 Outcomes

It is important to note that this logic model and its three companions do not represent a linear approach to ICMP development that started in 2005 and finished a sequential set of steps in 2007. If this were the case, it could be expected that the SWAT would have set up all the desired enabling outcomes and should be expecting to see delivery of the consequent first and second order outcomes. The reality, however, is that industry capacity (including that of the ARC) is developing more rapidly in some aspects of plan preparation

than in others, while ICMPs are continually being developed by many different players, including new entrants to the workforce and market. These players have different strengths and the development of strengths in some aspects of ICMP preparation inevitably highlights other areas where everyone can do better. Areas where plans and working relationships can be enhanced will thus always be shifting, and the SWAT's activities will thus always need to focus across all orders of outcomes.

It is also important to note that formative evaluations look at how things are done rather than what is achieved, and thus mostly focus on first and second order outcomes. However a key measure of the effectiveness of ICMPs is how well they achieve the desired third order outcomes, which would usually be encompassed by a summative (results-based) evaluation. Summative evaluations assess the impacts of a programme on the desired outcomes that are the focus of their effort.

It may not be possible to include many measurable indicators for third order outcomes in the formative evaluation framework produced by this report, but their eventual development will be an important measure of the effectiveness of the ARC and the TAs' ICMP activities. Development of third order indicators and monitoring frameworks is therefore included as an indicator of the achievement of a second order outcome.

The measures of success for the ICMP workstream strategy and activities regularly undertaken and already completed are in Appendix 5.

3.1.4.1 ICMP workstream first-order outcomes

As illustrated in the accompanying logic model, the first order (or enabling) outcomes are those most directly attributable to outputs, and consequently are those over which the ARC can reasonably be assumed to have the most control and responsibility. These outcomes include supportive constituencies, the development of long term funding mechanisms, long term governance arrangements that support ICMP development and implementation, resources to support preparation of ICMPs and institutional capacity to develop them to an appropriate level.

3.1.4.2 ICMP workstream second-order outcomes

The second order outcomes represent the results of observable changes in uptake and practice that will support changes in how catchments are managed. These include elements such as how TAs prepare and implement ICMPs and how different agencies (including consultants) work together and collaborate in these initiatives, and whether appropriate infrastructure is funded and built as proposed in the ICMPs.

3.1.4.3 ICMP workstream third-order outcomes

The third order outcomes represent the "harvest" – the environmental and other outcomes catchment managers and land use planners hope to achieve from the catchment planning process. These results are dependent on achievement of first and second order outcomes,

and thus often take some years to fully emerge. They should manifest in observable changes across the multiple bottom lines, including social, cultural and economic dimensions as well as the environmental aspects of water quantity, water quality, receiving environment quality, freshwater ecology, marine ecology and the associated terrestrial ecological values and other outcomes that ICMPs need to achieve.

3.1.4.4 ICMP workstream fourth-order outcomes

The measurable MBL outcomes can be checked against the vision and used to inform its ongoing development, ensuring the ICMP workstream stakeholders are continually asking themselves how well their efforts are progressing the Auckland Region towards sustainable development.

3.1.5 Assumptions

Assumptions are implicit in the way programme managers frame issues, objectives and solutions. Logic models and programme evaluation can help reveal assumptions when things don't happen quite as anticipated.

Some of the assumptions apparently implicit in the ICMP workstream are that working more closely with TAs and encouraging engineers, planners and other relevant practitioners to work more closely together will build positive working relationships and raise awareness of catchment planning issues and solutions, hence resulting in more understanding and ownership and uptake of catchment planning tools. It is then assumed or hoped that such uptake will yield better outcomes. Hence, TAs prepare good ICMPs; good ICMPs enable better land use and stormwater planning to occur at regional and territorial level; and better planning will produce better MBL outcomes for the TAs, the ARC and their region-wide constituencies.

3.1.6 External influences

External influences include factors or events beyond the control of the ARC which may enhance or impede the success of its programmes.

Synergies (positive external factors that are congruent with and/or operate to support the activities and intended outcomes of the ICMP workstream) include things such as:

- the need for councils to obtain network discharge consents under the RMA, because ICMPs can help with identifying effects and management tools to help prepare the assessment of environmental effects in support of the applications;
- pressure to shift the metropolitan urban limits, resulting in a demand for more catchment-related infrastructure;
- the requirement to engage in other planning processes under the LGA and RMA driven by growth and the need to review key regional and territorial statutory plans; and
- increased public awareness of environmental issues and infrastructure costs.

Confounding factors (negative external factors that tend to compete, conflict or operate in opposition to the activities and intended outcomes of the ICMP workstream) include things such as:

- the lack of capacity in the wider industry, meaning that staff of councils and consultancies are increasingly busy;
- organisational changes and staff turnover at the ARC and in the TAs and the wider regional and national industry; and
- loss of continuity of staff and institutional knowledge in the industry in the region.

Factors such as staff turnover may be beyond the control of ICMP stakeholders in the region, but clear definition of such problems may sometimes indicate solutions and other opportunities. It may thus be of interest to draw upon human resources data to document industry-wide staff turnover against the lower quartile to median level benchmark for voluntary turnover for professionals, which is 5-12% a year (Forsyth, 2006).

Figure 6 Overview logic model for the ICMP workstream strategy

ARC's direct accountability merges into shared accountability with that of the TAs

Efficiency (what the programme can do) overlaps with effectiveness (what the programme can influence)

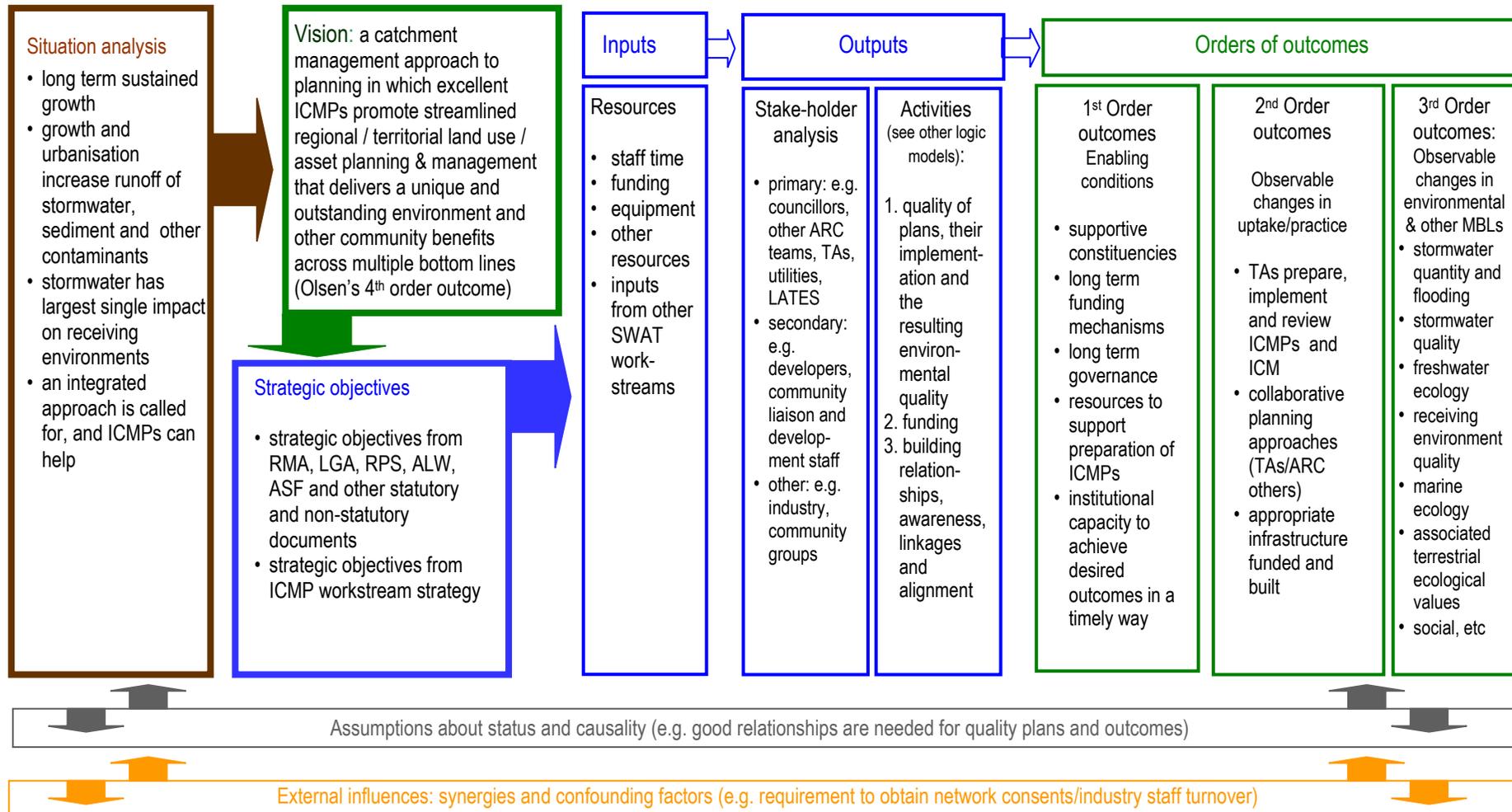


Table 1 Evaluation questions for the ICMP workstream strategy

Evaluation questions	Possible indicators, data sources, methods
Situation analysis, vision and objectives	
<p>Do the situation analysis, vision and objectives (including priorities) reflect the most recent relevant information affecting the ICMP workstream? Have significant changes in policy requirements and programme activity response been documented and appropriate action taken?</p>	<p>Boston Consulting Group (2004), regional statistics on ICMP-related vision, drivers, pressure, state, response and outcomes Document analysis to detect production of new Technical Publications (TPs), research papers, strategies, plans, policies, processes, legislation or standards Consultation with stakeholders</p>
<p>Have all stakeholders been identified to ensure that the situation analysis is updated or refined by way of a robust and agreed process to ensure their interests and needs are adequately addressed? Are interests, accountabilities and differences of opinion documented?</p>	<p>A comprehensive stakeholder analysis is done by way of a participatory approach involving internal and external stakeholders as indicated in Allen and Kilvington (2001) and Chapter 4 of WJ Kellogg (2004).</p>
<p>What are the implications of the ASF (Auckland Sustainability Framework, Regional Growth Forum, 2007) for the team's work, including addressing the Region's five sustainability challenges and making the shifts needed to achieve Auckland's eight sustainability goals?</p>	<p>Detailed analysis of the ASF and use of the Toolkit to apply the assessment matrix (p 33). <i>(Note that while important, these three questions are not necessarily part of the current evaluation, though they should inform any resulting workstream review).</i></p>
Project inputs	
<p>Are the inputs sufficient and timely?</p>	<p>ARC SWAT funding in annual plans and budgets, LTCCP, ARH ARC SWAT Staff time (FTE) Information from policy/planning and environmental research team (FTE/hours/days) Feedback from consents/compliance (how well ICMPs support applications)</p>
<p>Has sustainable funding been secured for the ARC's ICMP work and the TAs' ICMP work?</p>	<p>As indicated in the ARC's LTCCP and other funding arrangements e.g. ARH</p>
Project outputs: activities and stakeholder analysis	
<p>Have all stakeholders been identified and engaged with?</p>	<p>Number of stakeholder analyses completed Number of groups engaged with Number of groups yet to be engaged with Support from internal and external stakeholders for workstream objectives/activities and their role in these (satisfaction survey of key groups e.g. elected representatives and funders in the ARC and TAs, etc)</p>
<p>Was the good plans activity carried out as per Figure 2.2?</p>	<p>% of SWAT staff time and resources allocated</p>

Evaluation questions	Possible indicators, data sources, methods
Was the plan funding activity carried out as per Fig 2.3?	
Was the relationship activity carried out as per Fig 2.4?	
First order outcomes (enabling conditions)	
Are there supportive constituencies?	Numbers of TAs the team works well with Numbers of TAs it doesn't work well with Quality of internal relationships Reasons for all the above
Are there short and long term funding mechanisms to support the preparation of ICMPs?	As indicated in the ARC's LTCCP and other funding arrangements e.g. ARH (see above)
Is there adequate institutional capacity to prepare and implement ICMPs in a timely manner?	Results from Capacity workstream
Second order outcomes (Observable changes in uptake/practice)	
Are TAs preparing and implementing ICMPs, and how well?	Numbers of catchments with ICMPs Results of plan assessment process (Ss 2.2, 4.3) Surveys of implementation quality (IQ) of ICMPs
Are ARC and TAs collaborating on planning?	Meetings, workshops, consents, appeals
How is information being shared amongst stakeholders?	Networks/forums set up/attendance
Are plans being implemented as envisaged?	Are measures included in plans and being followed for documenting plan implementation? Is appropriate infrastructure being built? (asset inventory of green and grey designs/structures)
Third order outcomes (the harvest - observable changes in environmental and other MBLs)	
What observable improvements are there in key state of the environment and/or proxy indicators that can be attributed to preparation and implementation of ICMPs? For example:	Reduction in number of habitable floors flooded in the 50 and 100-year storms Runoff / hydrograph behaviour / water balance figures per catchment
Stormwater quality	Monitoring of levels of contaminants of concern in stormwater runoff
Receiving environment quality	Contaminant levels in receiving environments Mass loads to regional receiving environments
Freshwater ecology	Agreed benchmark figures from local and international literature
Marine ecology	MCI and other indicators and benchmarks from state of the environment monitoring
Associated terrestrial ecological values	Species diversity/abundance/health/proxy indicators and other indicators and benchmarks from state of the environment monitoring
The other bottom lines (e.g. social, cultural, etc) that	Riparian, natural and constructed wetland and other areas of native habitat Diversity/abundance/health of native

Evaluation questions	Possible indicators, data sources, methods
can be attributed to preparation and implementation ICMPs	flora/fauna
	Trends in indicators of quality of life as well as reduction in insurance claims and other costs associated with reduced flooding & contamination
Assumptions and external factors	
What assumptions about roles and causality may have been made in developing the ICMP workstream strategy?	Feedback on ICMP workstream strategy from evaluation process
What external synergies and confounding factors may have influenced the results of the evaluation?	Brainstorm by collaborative evaluation team Exploratory stakeholder interviews to identify good/bad external factors/unanticipated outcomes

3.2 Preparing good plans

3.2.1 Situation analysis and vision

ICMPs are not yet being prepared to the same high standard as the old CMPs were: the wider range of matters that now need to be addressed in an integrated catchment management plan has taken the industry beyond the high level of expertise previously attained. More consensus and guidance is needed on how a good ICMP should be prepared (internal logic), what a good ICMP should contain (scope) and the quality of the information provided (depth). There is also a shortage of capacity in the industry generally to support the development of plans to the desired standard. Better information sharing and knowledge management is also needed (Boston Consulting Group, 2004).

The vision proposed for plan quality is for:

“An industry with the capacity to produce good ICMPs that address MBLs. These plans enable evaluation of their implementation and outcomes, in line with New Zealand and international best practice.”

The logic model is summarised in Figure 6 and the evaluation questions are listed in Table 1.

Of great significance for the ICMP workstream is the PUCM research finding (Bachurst et al, 2002) that councils with commitment and capacity produced better plans: larger councils and those with wealthier constituents have higher quality plans and higher capacity to plan which, when combined with commitment, achieves better implementation. The PUCM group found that smaller councils, especially rural ones, do not have the capacity to implement their plans effectively, which in the case of stormwater management “usually involved ‘pipe-it’ drainage technologies”. They noted

that overcoming this implementation capacity gap in district councils so that improved environmental outcomes are promoted requires capacity building initiatives by central government and regional councils. They concluded that good plans are important, though not for perhaps the obvious reasons: it is still essential to continue improving plans and their implementation because, among other things, plans set out a consensus of community values about the environment. Further, the process of plan development helps to clarify goals and build commitment to those goals. However, this must be accompanied by capacity and commitment building to ensure good implementation, and this is discussed in section 2.4.

3.2.2 Inputs

The resources that the SWAT and the ARC put into the development of good ICMPs include ICMP workstream staff time, help from other parts of ARC, technical guidance sheets, and technical tools (such as the contaminant load model) that the ARC has developed for use in plan preparation. Providing funds to help TAs prepare ICMPs is another major input and is described in section 3.3.

3.2.3 Activities and stakeholders

Several key activities aim to promote the preparation of good ICMPs. The team ensures that it keeps up to date with best research and practice in the area, including by bringing visitors from overseas, attending conferences and keeping up to date with local and international literature. This enables preparation of a number of technical tools and guidance documents for TAs and their consultants to use. Another set of activities aim to investigate the monitoring needed to identify the achievement of third order outcomes, help provide accountability and ensure the ICMP workstream is continuously improving.

Primary stakeholders in this area include funding agencies within and beyond the ARC, as well as other SWAT staff. Secondary stakeholders include the relevant departments of TAs and their consultants (see section 2.4.1).

3.2.4 Outcomes

The outcomes have been grouped into three time frames: short term-outcomes have a payback of 1-2 years; medium term are those with a 3-5 year horizon; and long-term outcomes represent outcomes that could take 5-10 years or more to become evident.

However, as emphasised in section 2.4.5, it is important to note that these outcomes need to be seen as iterative and cyclical: because TAs have ICMPs at different stages of development, there will usually be some plans just exiting the enabling conditions phase, while other longer-lived plans may be entering or some way into the outcomes phases. Moreover, there will always be plan updates and reviews, so at any one time some parts of plans will be achieving short term outcomes while others will be achieving medium or longer term outcomes.

3.2.4.1 Short-term outcomes

The SWAT will continue to develop tools and guidance documents which are based on best practice. These will both be delivered by the in-house team, as well as getting contributions from national and international experts in various areas. The team will also attend conferences and seminars. In turn, the guidance derived will be provided to TAs and consultants in a number of ways, including giving advice and the development of tools.

Best practice is also developed by TAs and their consultants as they tackle particular issues in their catchments. Another important ongoing activity will therefore be developing forums and networks that encourage information sharing amongst all regional players.

A key short-term outcome is good agreement, guidance and feedback on plans, in terms of their internal logic, scope and depth. A plan assessment process is needed, and recommendations for this are in Appendix 6. The development, piloting, refinement and ongoing use of such a process will be an invaluable vehicle for building industry capacity within and beyond the ARC, and thus a collaborative multi-stakeholder approach is recommended.

However before consensus can be reached on assessing plans, the scope needs to be responsive to the needs of TAs facing intense pressures of growth, which often do not give them much time to fully research all possible issues that could be covered in a full ICMP. This issue is addressed in section 5.3 and the plan assessment process proposed in Appendix 6.

Another key short term outcome is the beginning of dialogue to initiate the development of programmes for integrated and co-ordinated monitoring by the ARC and TAs of ICMP implementation and the outcomes mandated under both the RMA and LGA, including the possible development of an environmental report card.

3.2.4.2 Medium-term outcomes

In the medium term, the plan assessment process based on collaborative learning for capacity-building should be in place to support ICMPs meet ARC and acknowledged best practice (as defined by the PUCM research team in Ericksen et al, 2003).

A programme of dialogue and consultation around information-sharing/knowledge management and co-ordination for improved monitoring of the implementation and outcomes of plans should also have been completed and MBL ICMP and ICM monitoring programmes developed and put into operation. This will enable catchment managers to show how ICMPs contribute to the LGA's four wellbeings and other objectives and outcomes specified in the RMA and other strategic documents. Considerable work has been done internationally and in New Zealand on interagency monitoring that enables

measurement of progress towards outcomes under both Acts and there is excellent monitoring information available on the Quality Planning website at <http://www.qualityplanning.org.nz/monitoring/effective-monitor.php>.

The “measures of success” in the workstream strategy (ARC, 2005) also envisage other councils outside of Auckland hearing of the ARC’s work through seminars, conferences and word-of-mouth, with ARC ICMP guidelines possibly in use by other Councils.

3.2.4.3 Long-term outcomes

In the long-term it is envisaged that good ICMPs support sustainable ICM and management of growth and urbanisation across the region, and monitoring and evaluation programmes have been developed to support iterative planning and assessment of implementation in order to improve ICM outcomes. Outcome monitoring would be done across multiple bottom lines, with environmental and other MBL outcomes of ICMP implementation being picked up in the relevant state of the environment (SoE) and quality of life (QoL) monitoring programmes (these outcomes are listed in the ICMP workstream activity in Figure 7 and Table 2).

3.2.5 Assumptions and external influences

A key assumption, though validated by research (Ericksen et al, 2003) is that the quality of the environmental and other outcomes of ICMPs enables assessment of the effectiveness of the plans and their implementation. This may be expressed as:

plan quality + implementation quality = environmental quality (PQ + IQ = EQ)¹

(The PUCM term is “EQ”, or environmental quality, but in line with the multiple bottom lines in both the RMA and the LGA, we suggest calling it “OQ”, or outcome quality.)

Much effort will need to be invested in assessing each of the three components of this equation in order to check the identification of good ICMPs (or their components) as identified in the assessment process.

A confounding factor is the lack of industry capacity – a real shortage of enough skilled staff – to produce good ICMPs. The good plans activity aims to overcome this by fostering skills within the local industry.

Synergising factors include the cutting edge best practice being developed and disseminated by the PUCM programme – this can offer significant benefit to ICMP stakeholders in the region. At the same time there is also growing awareness of need for sustainable development and the role of good plans generally in delivering this.

Figure 7 Logic model for good plans

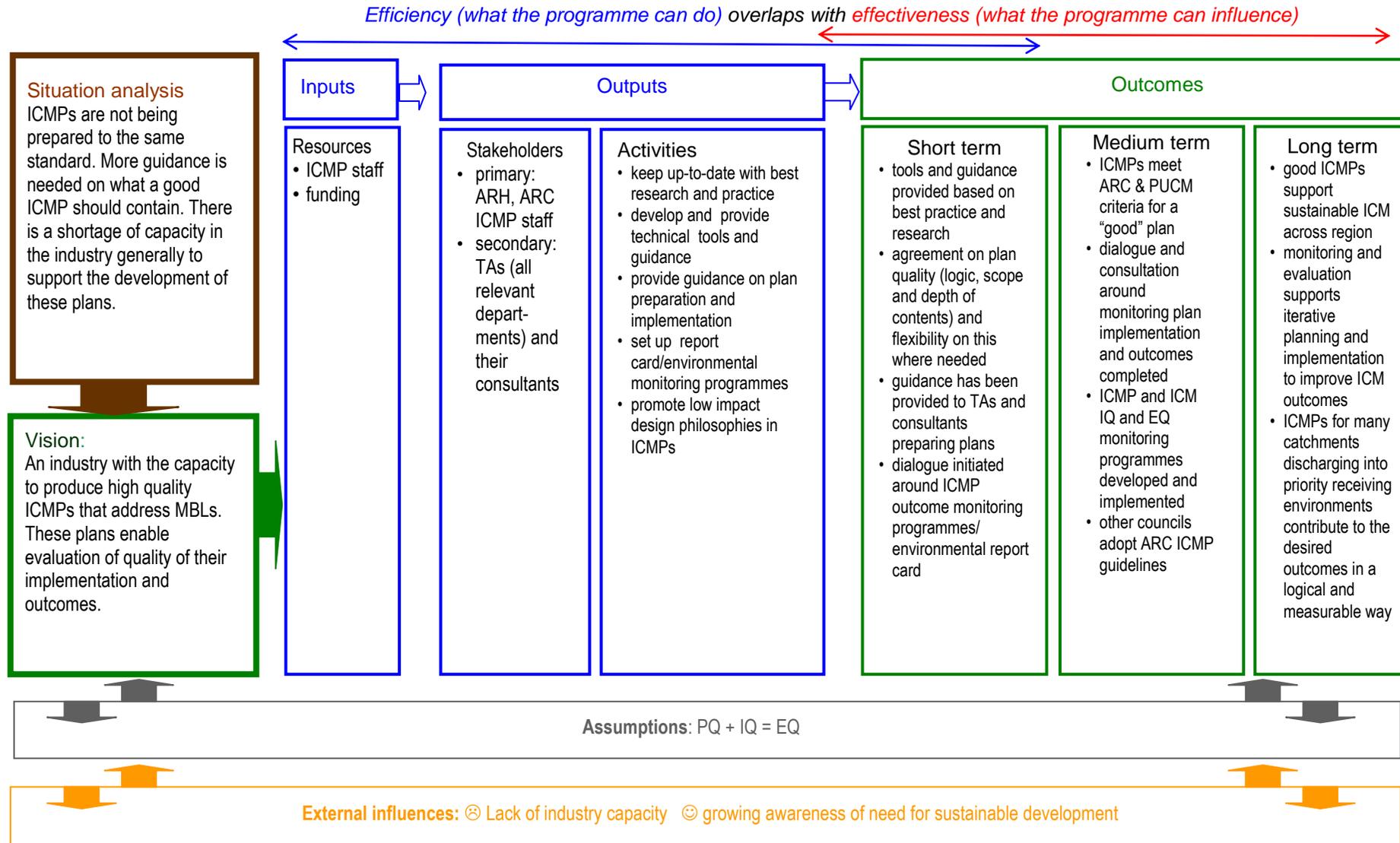


Table 2 Evaluation questions for the good plans activity

Evaluation questions	Possible indicators, data sources, methods
Inputs	
Are the inputs sufficient and timely?	ARC SWAT funding in annual plans and budgets, LTCCP ARH funding ARC SWAT Staff time (FTE) Information from policy/planning and environmental research teams (FTE/hours/days) Feedback from consents/compliance (how well ICMPs support applications)
Activities and stakeholders	
Did all activities occur as planned?	Numbers/percentages of activities completed in ICMP yearly plan (see Part B Appendices, ARC ICMP workstream strategy (ARC 2005), other documents and reports)
Have all stakeholders been identified and engaged with?	Number of stakeholder analyses completed as per section 1.4.1 Number of groups engaged with Number of groups yet to be engaged with
How are ARC staff keeping up-to-date with local and international best practice?	Number of conferences attended International and national experts brought in Information sharing networks and processes set up amongst local stakeholders
How many technical tools were developed?	List the tools e.g. contaminant modelling etc Uptake and feedback from consultants and councils using them
How many TAs/consultants has ARC provided guidance to for development of ICMPs?	Numbers of TAs Numbers of consultants
Which TAs/consultants are asking for / receiving guidance and which are not?	Names of TAs Names of consultants
Has dialogue been initiated on monitoring plan implementation (IQ) and outcomes (OQ)?	Numbers of meetings/conversations on IQ and OQ
Short-term outcomes	
How well did the old CMPs meet the strategic objectives in the relevant statutory and non-statutory documents of the time?	Analysis of and benchmark against the 51 CMPs analysed in Appendix 3
How many technical tools were developed and how many ICMPs used them?	List of tools and users
What other technical tools are needed?	Participatory gap analysis by all stakeholders of other tools needed
How well were the technical tools received and adopted?	User ratings

How many ICMPs were produced using ARC tools, guidance and other input? Which TAs produced these?	ICMP analysis
Is there good agreement, guidance and feedback on plans, both scope and depth, amongst all stakeholders?	Table of contents, best practice examples, stakeholder engagement in plan quality
Is there an agreed process under way for assessing ICMPs?	The plan assessment process is being further developed by stakeholders
Is there commitment to developing common frameworks and indicators to collect data for monitoring state of the environment and other MBL outcomes set out in strategic objectives and ICMPs?	Meetings held, commitment obtained
Medium term outcomes	
Is there an agreed process in place for assessing ICMPs?	Appendix 6 as further developed by stakeholders
How many ICMPs have been prepared? How many of these supported the necessary network consent applications? How many didn't?	Number of ICMPs completed and network consents issued in catchments with/without ICMPs
How good are the ICMPs being produced, and how well do the new ICMPs meet the strategic objectives in the relevant statutory and non-statutory documents that the ARC and TAs in the region must meet? What are the trends in plan quality over time? Where can they be improved? How can we facilitate this improvement? How are stakeholders taking part in and responding to this process?	Results of participatory plan assessment process (Appendix 6)
Do council staff and consultants have enough capacity to cope with demand? Is it do-able to prepare an ICMP to the expected standard in a timely manner?	Amount of TAs and consultants attending ICMP capacity building workshops Amount of ICMP Capacity building initiatives
Are desirable trends in anticipated environmental results and outcomes under other wellbeings defined in measurable MBL terms?	State of the environment surveys Other MBLs for example as per Quality of life surveys
How well do the situation analysis and policy response relate to indicators of state and impacts of concern used in the ARC's and TAs' state of the environment and related outcome monitoring programmes?	Comparison of indicators or categories of indicators based on criteria set out in Beanland and Huser (1999).
Are there common frameworks and indicators for collecting data for monitoring state of the environment and other MBL outcomes?	Indicators and frameworks in place
Long term outcomes	
How good are ICMPs compared with early versions?	Results of collaborative assessment process
Are ICMPs supporting sustainable ICM and management of growth and urbanisation across the region?	Feedback from stakeholders in and beyond the ARC, e.g. planners, engineers, developers and affected communities
What areas are covered or not covered by programmes to monitor ICMP implementation and MBL outcomes?	Numbers of areas covered or not covered by programme to monitor ICMP implementation/ MBL outcomes

3.3 Funding the preparation of ICMPs

3.3.1 Situation analysis and vision

Funding is one of the key activities in the ICMP workstream: because TAs have limited resources for integrated catchment planning, improvements in receiving environments are being achieved more slowly and less cost-effectively than is desirable given the pressures of growth on the region. If this can be addressed then the vision is that this will be a supporting factor in moving the region towards good awareness of water quality and aquatic habitat and a consistently high standard of integrated catchment management. Establishment of the team was predicated on funding from Auckland Regional Holdings (ARH), but in the long-term there is a need to secure continued funding for ICMPs.

The logic model is summarised in Figure 8 and the evaluation questions are listed in Table 3.

A key question posed by the ARC SWAT was, "To what extent has ARC funding to date resulted in better stormwater outcomes or the potential for this?" This is a hard question to answer, depending as it does on many factors including an analysis of the capacity gap in TAs that ARC funding was able to bridge (i.e. what would have been achieved without the funding compared with what has been achieved) and the results of monitoring the quality of plans, their implementation and the resulting multiple bottom line outcomes. The contribution of the funding to these improved first, second and third order outcomes can not readily be separated from the other workstream activities. However, it may nevertheless be useful to ask stakeholders how they would answer this question in qualitative terms for inclusion of the evaluation report discussed in section 5.1.

3.3.2 Inputs

Resources that the SWAT and the ARC put into helping to fund the development of ICMPs comprise ICMP workstream staff, together with help from other parts of ARC and, very importantly, funding from ARH.

The ICMP Funding Eligibility Guideline (ARC, 2006) is another key input, predicated upon linking the desired quality of an ICMP (scope and depth) with funding of plan preparation.

3.3.3 Activities and stakeholders

Primary stakeholders are the funding agencies (ARH and ARC) and ARC ICMP staff, while secondary stakeholders are the TAs who receive the additional funding and their consultants who prepare the ICMPs for them.

Funding-related activities fall into the following broad categories:

- awareness-raising/advocacy and applications in order to secure ARH and other funding (see the logic model for building relationships, in Figure 8);

- securing the funding from ARH and other sources for disbursement to TAs;
- working with TAs to set yearly and 3 to 6-yearly TA work programmes
- working with TAs to identify priority catchments;
- receiving and processing TA funding claims in a timely manner (within one month); and
- reviewing the funding eligibility guideline each December.

3.3.4 Outcomes

3.3.4.1 Short-term outcomes

Short-term outcomes anticipated within 1-2 years include gaining the required annual funding from ARH and other sources. They also include an ongoing process of yearly work programmes being prepared and priority catchments identified, with the funding eligibility guideline revised annually and claims processed in a timely manner in accordance with the Guideline (ARC, 2006). Specific outcomes include:

- development of a yearly work programme with each TA, undertaken annually in May/ June, to tie in with the funding process. This includes identifying priority catchments;
- developing a 3-6 yearly work programme with each TA which prioritises catchment work and sets a timeline for completion of the ICMPs. This would then be reviewed and updated annually in October;
- identifying priority catchments from a regional perspective by January 2006;
- updating the claiming procedure and if required making submissions in November-February on TA's annual planning processes.

3.3.4.2 Medium-term outcomes

Outcomes anticipated in 3-5 years include benefits of using the plan assessment process outlined in section 2.2. This will be evidenced by a more consistent standard of ICMPs across the Region, even if they take somewhat different catchment-specific approaches. Such responsiveness to the needs of funding recipients is also a desirable outcome.

ICMPs will have addressed all priority catchments and receiving environments, with 3-6 year work programmes prepared and being implemented) and that ICMPs will be completed and network consents issued for all catchments within the MUL by 2015 (ARC, 2005).

Feedback from TA stakeholders was that ARC funding means ICMP work is able to be initiated in some less well-resourced councils, and is thus of significant value for land use planning in their district. However, even for a larger councils for whom the monetary sum may not be significant, the political value of ARC funding towards for preparing ICMPs helps TA staff to gain internal political support for ICM.

3.3.4.3 Long-term outcomes

Long term outcomes that could take 5-10 years or more to become evident include the development of a good understanding amongst all regional stakeholders of the need for adequate and secure resourcing if good ICM outcomes are to be gained. It should also be possible to document that ARC funding has resulted in better stormwater outcomes or the potential for this, with network consents having been issued for all catchments within the MUL by 2015. The completion of ICMPs in a consistent and timely manner will have been shown to allow planned regional growth and development to proceed in an orderly fashion.

3.3.5 Assumptions and external influences

The ARC (2005) notes that lack of funding is one of the major barriers to successful ICM, so funding the preparation of plans assumes that this barrier will be reduced, freeing up TAs' stormwater funding for the capital works and other (including ecological/amenity) infrastructure planned in their ICMPs.

There is also a major assumption that by providing regional co-ordination of the completion of ICMPs, the ARC will ensure that catchments sharing receiving environments are appropriately addressed. This needs to be specifically considered in the network consents process and will require good alignment within the ARC (see section 3.4).

A number of external influences are at work. Chief among the confounding factors is that competition for funding is increasing. However, there is also growing public acceptance of the need for good planning and regulations to support environmental planning, and this provides some good synergies.

Figure 8 Logic model for funding the preparation of ICMPs

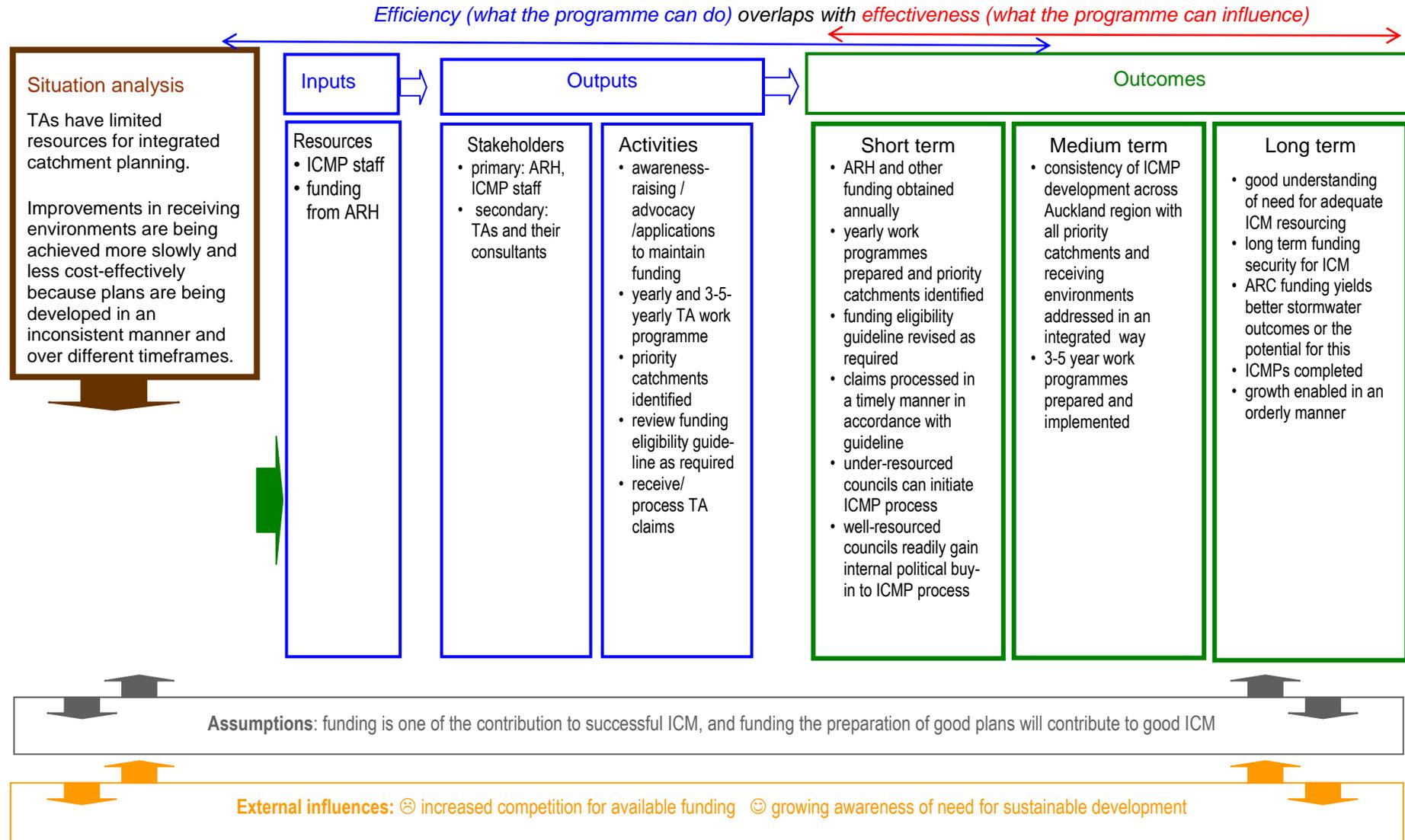


Table 3 Evaluation questions for the plan funding activity

Evaluation questions	Possible indicators, data sources, methods
Inputs	
Are the inputs sufficient and timely?	ARC SWAT funding in annual plans and budgets, LTCCP ARH funding ARC SWAT Staff time (FTE) Information from policy/planning & environmental research team (FTE/hours/days) Feedback from consents/compliance (how well ICMPs support applications)
Activities and stakeholders	
Did all activities occur as planned?	Numbers/percentages of activities (sourced from ARC ICMP workstream strategy (ARC 2005), other documents & reports)
Have all stakeholders been identified and engaged with?	Stakeholder analyses completed Number of groups engaged with
Have secure funding sources been developed?	Sources of funding and duration of commitment
Short term outcomes	
Are ICMPs meeting the standard in the ICMP funding eligibility guideline?	ICMP tables of contents (ToC) contain headings set out in ICMP Funding Eligibility Guideline
Were funding eligibility guidelines updated?	Guideline document version No. and date
How helpful do TAs find the ARC funding?	Stakeholder survey
Were funding claims processed in a timely way?	Numbers of claims processed/unprocessed Number of ICMPs completed
Medium term outcomes	
Are there ICMP plans in place to cover priority catchments and receiving environments in the Auckland Region?	Numbers of plans:priority catchments ICMPs completed and network consents issued for all catchments within the MUL by 2015 Number of subdivision consents issued in/out of catchments with/without ICMPs
Are 3-6 year work programmes prepared and implemented?	Number of programmes prepared and implemented
Do ICMPs support network consent applications well?	Number of network consents issued
To what extent has ARC funding to date resulted in better stormwater outcomes or the potential for this?	Qualitative survey of stakeholders: does it help? What would have been achieved without funding c.f. with it, as indicated by MBL outcomes?
What opportunities are there to target the funding more tightly to achieve the workstream objectives?	Results derived from using this evaluation framework
Long term outcomes	
Are there ICMP plans in place to cover all catchments and receiving environments in the Auckland region?	Numbers of plans:catchments

3.4 Building relationships, awareness, linkages and alignment

3.4.1 Situation analysis and vision

Building relationships, awareness and alignment is acknowledged as a cornerstone of the SWAT effort (ARC, 2005): managing environmental outcomes such as integrated catchment management requires all the key stakeholders to work together in a co-ordinated and concerted manner. Better understanding of and buy-in to regional planning processes is needed (Boston Consulting Group, 2004). However, it is also recognised that this calls for new approaches towards working across departmental areas within both the ARC and the TAs, and across agencies and governance scales.

There is also some concern that the network discharge consenting process is narrowing the scope of the contents of ICMPs, raising the risk that potentially avoidable catchment management problems could surface in the future.

As noted in section 3.2, the PUCM research group found (Bachurst et al, 2002) that larger councils and those with wealthier constituents have better plans and higher capacity to plan which, when combined with commitment, achieves better implementation, and identified a need for capacity building initiatives by central government and regional councils. Perhaps their most important observation is that “in the short term, building council capacity and commitment, rather than focusing on plan quality, may be more likely to lead to better environmental outcomes.”

The proposed vision is for:

“A joined up Auckland: catchment planners and managers working together help to deliver cost-efficiencies and improved MBL outcomes for region as a whole.”

The logic model is in Figure 9 and the evaluation questions are in Table 4.

3.4.2 Inputs

Resources that the SWAT and ARC put into the development of building good relationships comprise the efforts of ICMP workstream staff as they model good relationship building and interact constructively with other stakeholders and stakeholder groups. Liaison with the capacity-building team will also be of benefits in achieving good ICMPs, good implementation and hence, good outcomes.

3.4.3 Activities and stakeholders

Primary stakeholders include councillors, other ARC teams and TAs, including their utilities and local authority trading enterprises (LATES). Secondary stakeholders include councillors, planners, consultants, developers and the construction sector. Community groups are becoming another important stakeholder as local communities become more engaged with their waterways.

The regular meetings with TA staff initiated by the SWAT are one of the key relationship building activities. SWAT members also attend stakeholder consultation meetings and provide feedback on documents and reports, as well as taking opportunities to raise awareness of MBL ICMPs. As a result of these and other activities the SWAT is also developing partnerships with other ARC sections and programmes.

3.4.4 Outcomes

3.4.4.1 Short-term outcomes

One of the key outcomes these activities have already produced in the ICMP workstream's first two years is getting to know TA teams on a personal basis. This has begun to encourage more meetings with key staff of other departments in TAs. Note, however, that relationship building is an ongoing process, and hence will continue to remain a first-order outcome, to overcome turnover-induced loss of key people and also to maintain and further build good relationships among colleagues of long standing.

A crucial outcome is that ICMP and other ARC staff develop a better understanding of stakeholder needs and constraints. This will enable more targeted assistance in a range of appropriate forms.

The SWAT will have developed information and awareness strategies on the value of MBL ICMPs, targeting professional engineering and wider audiences such as policy/ planning, consenting/compliance, environmental research and asset management staff. Community groups and the wider public also want to know more about catchment and asset management processes and how they can take part in these under both the RMA and LGA.

3.4.4.2 Medium-term outcomes

Medium term outcomes anticipated within 3-5 years include the development of strong collaborative working relationships with both internal and external stakeholders, including:

- greater consensus and working together of ARC and TA planning, engineering and other staff, with improved links to land use planning processes;

- enhanced consideration of catchment-related issues across all bottom lines in regional strategies;
- consensus across the ARC on the purpose, scope, processes and integration of ICMP-related work, including research, strategic planning, consenting, compliance and outcome monitoring (including community-based monitoring);
- mutual trust and respect among all parties; and
- the ongoing facilitation of information-sharing activities.

3.4.4.3 Long-term outcomes

Long term outcomes that could take 5-10 years or more to become evident include:

- greater awareness of MBL ICMPs across wider stakeholder groups, as evidenced by indicators such as involvement in resource care initiatives and submissions on LTCCPs and other processes by those affected by flooding, contamination and other catchment management issues; and
- a genuine collective regional consensus amongst professionals and the public on the purpose, processes and integration of ICMP-related work.

3.4.5 Assumptions and external influences

A key assumption is that good relationships and shared understanding built up through personal contact are needed in order for good plans and outcomes to be delivered to the Auckland region.

Confounding factors include staff turnover at the ARC and more widely throughout the industry, as well as the capacity issues raised as people get busier and more pressed for time. Management structures in big organisations can also impede effective communication, and ongoing effort needs to be invested in this within ARC and TAs alike.

Synergies include the good experiences built up over the last two or more years, which have improved the level of trust and openness amongst key players and contributed to a sense of collegiality. The pressure of growth has also focused the minds of the relevant professions on the need for excellent environmental analysis and planning as a key input to other planning processes, as evidenced by the goals and indicative strategic responses (for example, on page 23) in the Auckland Sustainability Framework (Regional Growth Forum, 2007).

Figure 9 Logic model for building relationships, awareness, linkages and alignment

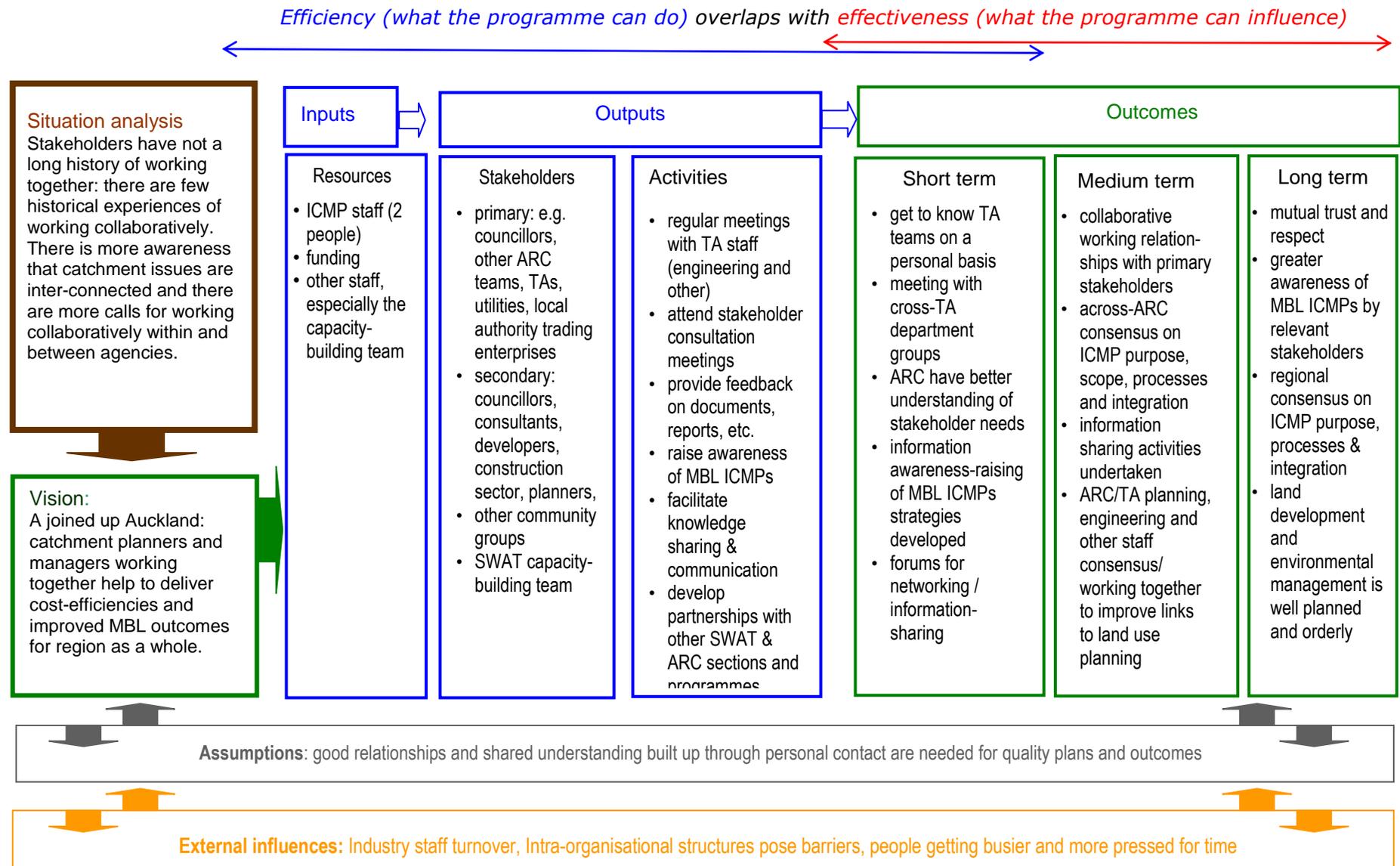


Table 4 Evaluation questions for relationship building, awareness, linkages and alignment

Evaluation questions	Possible indicators, data sources, methods
Inputs	
Are the inputs sufficient and timely?	ARC SWAT funding annual plans and budgets, LTCCP, ICMP workstream strategy ARH funding ARC SWAT staff time (FTE) Information from policy/planning and environmental research teams (FTE/hours/days) Feedback from consents/compliance (how well ICMPs support applications)
Activities and stakeholders	
Are there regular 1:1 meetings with engineering and other relevant staff at all TAs? If not, which TAs and skills/departments are missing out?	Meeting records sorted by TA
Did we provide constructive feedback on TAs' and consultants' documents?	Numbers of communications/copies of letters and emails
Are there regular stakeholder meetings to attend? Do all TAs attend the regular group meetings?	Meeting records sorted by TA
Are we providing awareness messages to key stakeholders about MBL ICMPs?	Records of strategies, meetings or presentations, sorted by TA and target audience (e.g. councillors, community boards, senior managers, multi-disciplinary/departmental)
Short term outcomes	
Have we developed and delivered strategies to improve information sharing and awareness-raising with internal and external stakeholders on the value of MBL ICMPs?	No. of strategies developed No. of people aimed at (reach) Measures of positive feedback / No. of comments No. of meetings / seminars etc
How useful are the TA 1:1 and regular group meetings?	Numbers of stakeholders attending and attendance records/ notes of who is missing Satisfaction surveys How many non-engineering TA staff attend regular ICMP group meetings
What documents were submitted for feedback?	Types of documents provided How useful did the recipients find the feedback on documents, etc.?
What is the quality of the relationship with each internal ARC and external TA or other stakeholder and how strong or weak is it? With whom do we have good communication and partnerships? What are the reasons for the findings?	Relationship satisfaction surveys in ARC and of TAs/other stakeholders, personal ratings, interviews, numbers of meetings, invitations to meetings, efficient processes

Evaluation questions	Possible indicators, data sources, methods
Medium term outcomes	
How effective were the information sharing/awareness raising strategies? Were the right target audiences reached?	Number of programmes delivered Audiences reached
How well-aligned are internal ARC stakeholders and their departments on the scope and purpose of ICMPs as used by ARC policy, planning, research, consents and compliance staff as well as by the same parties in the consent applicants' organisations?	Views of the respective internal and external stakeholders of, for example, ease of production and alignment of policy, plans, technical publications, consent conditions and compliance regimes and outcome monitoring, and the reasons for key areas of agreement and disagreement
Is there joint definition of and stakeholder involvement with defining collective research and other needs?	TAs and other stakeholders are involved in identifying research and other needs and preparing requests for proposals (RFPs) Jointly written RFPs that specify involvement of TAs and other relevant stakeholders throughout the project where relevant
What is the quality of the relationship with each internal ARC and external TA or other stakeholder and how strong or weak is it? With whom do we have good communication and partnerships? What are the reasons for the findings?	Relationship satisfaction surveys in ARC and of TAs/other stakeholders, personal ratings, interviews, numbers of meetings, invitations to meetings, efficient processes
How well are ARC and TAs working with each other? What sorts of collaborative working relationships are in place? Are the links to land use planning processes improving?	Examples of joint projects How smoothly do joint projects go? How well integrated are ICMPs, structure, district, asset management and other relevant plans?
Long term outcomes	
Were the information sharing/awareness raising strategies successful?	Changes in behaviour of audiences reached e.g. councillors increase funding for TA ICMP initiatives
Is there greater awareness of MBL ICMPs across relevant stakeholders?	Public involvement in resource care initiatives and submissions on LTCCPs and other processes by those affected by flooding, contamination and other catchment management issues Public awareness surveys
Are the links to land use and asset planning processes improving?	How well integrated ICMPs, structure, district, asset management and other plans are
Is there mutual trust and respect among all parties?	Self-surveys, levels of participation
How wide is the regional collective consensus on ICMP purpose, processes and integration?	Plan assessment process, consent processing, stakeholder views

4 Identifying key evaluation questions and indicators

Evaluating plan outcomes is a fledgling area of practice in the environmental planning arena, thus to build institutional expertise and produce manageable-sized results that can be incorporated into the plan review process, it is better to start with small projects and experiment with a mix of qualitative and quantitative methods (Day, 2006).

The approach acknowledges that many (if not most) evaluation plans fail because they are too ambitious. Accordingly a more pragmatic approach has been taken, focusing the evaluation on high priority activities where evaluation effort can be most effectively targeted and where the data produced will be most valuable in the short to medium term for making adjustments to the ICMP workstream strategy. The framework is a very simple one that can be further developed over time so that the ARC and its internal and external stakeholders become progressively more confident and competent with logic models and programme monitoring and evaluation.

In this section, a monitoring framework is started for ongoing evaluation of the ICMP workstream strategy. The framework itself has been developed as stage 3 in the methodology used in this report (section 2). It follows on from section 3 which sets out four logic models in both text and graphic form. The first of these covers the ICMP workstream, and the others each cover one of the main clusters of activities that collectively work to provide the overall outcomes set out in the workstream logic model, namely:

- the provision of good ICMPs;
- secure funding; and
- good relationships, awareness, linkages and alignment.

A table of evaluation questions and indicators was then developed for each logic model (Tables 1 – 4). The questions follow the progression of each model and raise issues that track the workstream’s evolution over time, traversing the inputs, activities with the workstream’s stakeholders and the results of outcomes as they emerge over time. In this way the questions comprise both formative and summative evaluation questions.

As explained in section 2.3, formative questions help managers improve their programme by focusing most on programme inputs, activities and short-term outcomes. This is good to generate periodic reports that can be shared quickly, monitor progress and make mid-course corrections when needed. However, asking summative questions that focus mostly on intermediate and longer term outcomes also helps to generate information that can be used to demonstrate the results of the ICMP workstream to funders and the wider community.

The framework has been developed with the SWAT in a participatory way. The logic models in Figures 6 – 9 and the evaluation questions in Tables 1 – 4 contain far more evaluation questions than can be included in a manageable ongoing evaluation

framework, so the SWAT has selected a prioritised series of evaluation questions for the ICMP workstream and each of its three activities. Detailed data collection tables (Tables 5 – 8) have been prepared for each question selected, including indicators, benchmarks where appropriate, data sources, data collection frequency and methods and resourcing required.

These tables are presented next, with a simplified framework in the form of a calendar bring-up system for collecting the data presented in section 5.

Table 5 Key indicators and data sources for the ICMP workstream strategy

Key evaluation questions from Table 1	Links to objective (1-5) and MBLs ne-fe #	Indicator (and benchmark or target if relevant)	Data source/method	Frequency / date / resourcing needed
1. Are the inputs of people, funding and other resources sufficient and timely?	fe, ie (1)-(5)	ARC SWAT funding in annual plans and budgets, LTCCP ARH funding ARC SWAT staff time (FTE) Team FTEs and budgets	HR, budget Information from policy/planning and environmental research (FTE/hours/days) Feedback from consents/compliance (how well ICMPs support applications)	Annual at time of preparing annual budget estimates 3 and 6-yearly at time of LTCCP review As required by new plans or programmes
2. Have significant changes in policy requirements and programme activity response been documented and appropriate action taken?	ie (1)-(5)	Production of new TPs, research papers, strategies, plans, policies, processes, legislation or standards	Document analysis Feedback from stakeholders	Likely to require an additional 5% of staff time (also including the analysis of the inputs needed for the three major workstream activities)
3. Have all stakeholders been identified and engaged with? Are there supportive constituencies?	ie (1)-(5)	Stakeholder analyses documented Numbers of TAs the team works well with and doesn't work well with Quality of internal relationships Reasons for all the above	SWAT internal review	
4. How is information/research being shared amongst local stakeholders?	ie (1)-(5)	Networks, forums set up/attendance	Records of meetings, feedback from all forums	As above
5. What observable improvements occur that can be attributed to preparation and implementation of ICMPs? For example: <ul style="list-style-type: none"> improved links to land use/asset planning processes stormwater quantity and quality receiving environment quality freshwater & marine ecology associated terrestrial ecological values other bottom lines (e.g. social, cultural, financial, etc) 	all (1)-(5)	All-stakeholder views on smoothness of planning processes and integration State of the environment, quality of life and other regular surveys Consent monitoring data where relevant	ICMP implementation monitoring Network and other discharge consent compliance monitoring State of the environment monitoring and/or proxy indicators All stakeholders	Staff time of relevant ICMP workstream staff, other ARC staff and TA/consulting staff at time of annual or other data review

Classification of MBLs (multiple bottom lines):

ne = natural environment be = built environment ce = cultural environment se = social environment ie = institutional environment fe = financial environment

Table 6 Key indicators and data sources for the good plans activity

Key evaluation questions from Table 2	Links to objective (1-5) and MBLs ne-fe #	Indicator (and benchmark or target if relevant)	Data source/method	Frequency / date / resourcing needed
Are the inputs sufficient and timely?	all fe, ie	ARC SWAT funding in annual plans and budgets, LTCCP ARH funding ARC SWAT staff time (FTE) Team FTEs and budgets	HR, budget Information from policy/planning and environmental research teams (FTE/hours/days) Feedback from consents/compliance (how well ICMPs support applications)	Annual at time of preparing annual budget estimates 3 and 6-yearly at time of LTCCP review As required by new plans or programmes
6. How many technical tools were developed and how many ICMPs used them? What other technical tools are needed?	(1) (2) (4) (5) ie	List of tools + uptake and feedback from consultants & councils using them Participatory gap analysis by all stakeholders of other tools needed	Records, evidence in ICMPs, network consent applications and supporting material Gap analysis findings	ICMP and TA staff time
7. Is there commitment to developing common frameworks and indicators to collect data for monitoring state of the environment & other MBL outcomes set out in strategic objectives & ICMPs?	(2) (4) (5) ie, fe	Meetings held, commitment obtained	Records	ICMP and TA staff time
8. How good are the ICMPs being produced? Is there good agreement on what a good plan is? Is an agreed plan assessment process in place? What are the trends in plan quality over time? Where can they be improved? How can we facilitate this improvement? How are stakeholders taking part in/responding to this process?	(1) (2) ie, fe	Plan assessment process developed Internal plan logic (PUCM criteria) Scope of contents (ARC guideline) Depth of coverage of contents (benchmarked vs best practice e.g.s) Stakeholder engagement in plan quality Results of plan assessment process	Analysis of and benchmark against the 51 CMPs analysed Results of Plan assessment process (as above)	As required Funding and resources for Assessment team (Appendix 6)
9. Do ICMPs support network consent applications well?	(4) ie	Number of network consents issued in catchment with and without ICMPs	Records Interviews with consenting staff	At time of granting ICMP and consenting staff time
10. Are plans being implemented as envisaged?	(1) (5) ie	Do ICMPs describe how to monitor and document plan implementation and are the systems being followed? Is appropriate infrastructure being	TA reporting on implementation programme for each ICMP	Staff time of relevant ICMP workstream staff as required

		built? E.g. catchment management asset inventories of both green and grey engineering designs and structures		
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Classification of MBLs (multiple bottom lines)
 ne = natural environment be = built environment ce = cultural environment se = social environment ie = institutional environment fe = financial environment

Table 7 Key indicators and data sources for the plan funding activity

Key evaluation questions from Table 3	Links to objective (1-5) and MBLs ne-fe #	Indicator (and benchmark or target if relevant)	Data source/method	Frequency / date / resourcing needed
Are the inputs sufficient and timely?	All fe, ie	ARC SWAT funding in annual plans and budgets, LTCCP ARH funding ARC SWAT staff time (FTE) Team FTEs and budgets	HR, budget Information from policy/planning and environmental research teams (FTE/hours/days) Feedback from consents/compliance (how well ICMPs support applications)	Annual at time of preparing annual budget estimates 3 and 6-yearly at time of LTCCP review As required by new plans or programmes
11. Are funding eligibility guidelines updated and followed?	(3) fe, ie	Funding eligibility guidelines Number of claims processed/unprocessed	Records	Annual ICMP staff time
12. How helpful do TAs find the ARC funding? To what extent has ARC funding to date resulted in better stormwater outcomes or the potential for this?	All All	Qualitative survey of stakeholders: what would have been achieved without funding c.f. with it, as indicated by MBL outcomes?	Stakeholder survey Policy effectiveness analysis Plan assessment process	Annual ICMP, environmental research and TA staff time
13. How many ICMPs are in place and how up-to-date are they? Are there ICMP plans in place to cover all catchments and receiving environments in the Auckland region?	(2) (4) fe, ie	Number of ICMPs overall Number of ICMPs in priority catchments Numbers of plans:catchments Number of 3-6 year work programmes prepared and implemented	Records Gap analysis	Annual 2015 ICMP staff time

Classification of MBLs (multiple bottom lines)
 ne = natural environment be = built environment ce = cultural environment se = social environment ie = institutional environment fe = financial environment

Table 8 Key indicators and data sources for the building relationships, awareness, linkages and alignment activity

Key evaluation questions from Table 4	Links to objective (1-5) and MBLs ne-fe #	Indicator (and benchmark or target if relevant)	Data source/method	Frequency / date / resourcing needed
Are the inputs sufficient and timely?	fe, ie	ARC SWAT funding in annual plans and budgets, LTCCP ARH funding ARC SWAT staff time (FTE) Team FTEs and budgets	Information from policy/planning and environmental research teams (FTE/hours/days) Feedback from consents/ compliance (how well ICMPs support applications)	Annual at time of preparing annual budget estimates 3 and 6-yearly at time of LTCCP review As required by new plans or programmes
14. Have we developed and delivered strategies to improve information sharing and awareness-raising with internal and external stakeholders on the value of MBL ICMPs?	(1) 92 ie	No. of strategies developed No. and groups of people aimed at (reach) Measures of positive feedback / No. of comments No. of meetings / seminars etc	Records of strategies, meetings or presentations, sorted by TA and target audience (e.g. councillors, community boards, senior managers, multi-disciplinary / inter-departmental)	As above ICMP staff time
15. How well-aligned are internal ARC stakeholders and their departments on the scope and purpose of ICMPs as used by ARC policy, planning, research, consents and compliance staff as well as by the same parties in the consent applicants' organisations?	(1) (2) (5) ie	Views of the respective internal and external stakeholders of, for example, ease of production and alignment of policy, plans, technical publications, consent conditions and compliance regimes and outcome monitoring, and the reasons for key areas of agreement and disagreement		Annual ICMP staff time
16. What is the quality of the relationship with each internal ARC and external TA or other stakeholder and how strong or weak is it? With whom do we have good communication and partnerships? What are the reasons for the findings?	(2) (5) ie	Relationship satisfaction surveys in ARC and of of TAs/other stakeholders	Personal ratings, interviews, numbers of meetings, invitations to meetings, efficient processes	Every two years ICMP staff time
17. Are the links to land use and asset planning processes improving?	(1) (2) (5) ie	How well integrated ICMPs, structure, district, asset management and other plans are	Feedback from internal and external preparers and users of these documents	Every two years ICMP staff time
18. Is there greater public awareness of ICMPs?	(1) se	Public involvement Public awareness surveys	Participation in resource care initiatives, submissions on LTCCPs and other processes	Every four years Contribution to ARC &/ or TA survey costs

Classification of MBLs (multiple bottom lines)

ne = natural environment be = built environment ce = cultural environment se = social environment ie = institutional environment fe = financial environment

5 The evaluation framework and its use and development

Note everything that counts can be measured, and not everything that can be measured counts.

Albert Einstein.

5.1 Introducing the framework

Tables 5 – 8 spell out in detail how to collect the data needed to answer each of the evaluation questions in Tables 1 – 4. However, much of this data collection can be done as one task at the same time – for example analysing the inputs to each workstream activity is set out four times in Tables 5 – 8, but can easily be done in one exercise.

This section therefore collates the data collection tasks into the calendar format in Table 9 that fulfils a number of functions. It:

- summarises all the tasks for the first formative and summative evaluation of the ICMP workstream into an efficient work programme by grouping like tasks together;
- acts as a bring-up system for routine ongoing evaluation tasks by scheduling dates;
- refers back to the relevant detailed tables (Tables 5 – 8) in which information about indicators, data collection methods, resourcing and so on can be updated over time.

This section also makes a number of recommendations about using the framework in Table 9 to conduct the first evaluation of the efficiency and effectiveness of the ICMP workstream and to encourage continuous improvement.

However it is noted that as the ICMP workstream strategy has been under way for two years, many key workstream activities have already been completed.

Recommendations fall into several main categories:

- introducing the framework;
- using the framework for the first evaluation of the ICMP workstream strategy;
- accepting and refining the process for assessing plans;
- refining the strategy and updating the evaluation framework; and
- taking time to identify, reflect on and absorb the learnings from this important first phase of the process.

The evaluation framework is presented in Table 9.

The narrative that will result from the evaluation process in Table 9 is indicated overleaf by a series of headings that provide a narrative structure. This same structure has helped with the selection of four or five evaluation questions and indicators for each of the workstream activities (Tables 5 – 8). These same questions and indicators were then used again to develop a final and more targeted list of indicators to populate the final evaluation framework.

An indicative scale is shown in Table 10, which shows qualitative rankings, the results of which can be shown in simple bar or pie charts.

5.1.1 Evaluation report: proposed headings

The suggestions below draw upon the thinking already documented in this report, together with the works of Geoff Stone (Stone, 2005) and John Owen (Owen, 2005).

Aims

The report should aim to answer the question: “What progress has been made towards meeting the objectives of the ICMP workstream strategy?” It should ideally aim to do this by focusing on 2-3 indicators for each of the four workstream logic models that enable the program to be tracked over time and pick up on areas where changes need to be made, and to demonstrate the progressive achievements of outcomes.

This section should also make it very clear who will receive and use the information.

Methods

This section should summarise how the evaluation was done, citing people, resources, methods, data sources, analysis and interpretation.

Situation analysis, vision and strategic objectives

The evaluation process should document the original justification for the ICMP workstream strategy in terms of the policy problem it aimed to address. It should also enable a critique of the programme logic. Change over time should also be documented, enabling the situation analysis, vision and strategic objectives to be updated and the current focus of the ICMP workstream strategy to be assessed. This should help answer the question “Why is this programme important, who does it matter to and where does it fit in the overall scheme of things?”

Inputs

This section should document overall team FTE and dollars to show how resources increased or decreased (in real terms) over the life of the project and track how this is allocated across the key activities, answering the question, “Did we provide a level of resourcing appropriate to the scale of the problem?”.

Activities

This section should identify whether or not the planned activities are done as planned, with a particular focus on tracking whether certain kinds of activities are not achieved and, if possible, why. This answers the question, “Did we do what we said we would?”

Outcomes

This section answers the questions, “Did we make a difference?” and “What in the programme causes the observed outcomes?”. It should include:

- an assessment of whether the activities are having their planned effect in the short term in changing skills, attitudes and awareness: how many groups are participating, how do they feel about it, and what groups/TAs are not participating;
- an assessment of changes in practice such as different workplace groupings, improved plans, better alignment of planning and other relevant processes, effective catchment management infrastructure, and agreed frameworks for monitoring plan quality, implementation quality and outcome quality;
- changes effected in the desired environmental (and other MBL) outcomes; and
- an assessment of external factors impeding or enhancing these.

Summary and recommendations

This section should include a general overview of findings (including learnings for continuous adaptation and improvement) and recommendations for improving the workstream strategy and/or its operational context and dissemination of and action on the evaluation findings. This answers the question, “How can we do better?”

Table 9 Evaluation tasks and timetable: summary

ASSESSING ENABLING CONDITIONS: By SWAT with other internal stakeholders on a regular basis

Task 1 Are the inputs of people, funding and other resources sufficient and timely, for all four ICMP activities?

Task 2. Have significant changes in policy requirements and programme activity response been documented and appropriate action taken?

Task 3. Have all stakeholders been identified and engaged with? Are there supportive constituencies?

Task4. How is information/research being shared amongst local stakeholders?

Task 6. How many technical tools were developed and how many ICMPs used them? What other technical tools are needed?

Task 7. Is there commitment to developing common frameworks and indicators to collect data for monitoring state of the environment and other MBL outcomes in strategic objectives and ICMPs?

Task 11. Are funding eligibility guidelines updated and followed?

Task 12. How helpful do TAs find the ARC funding? To what extent has ARC funding to date resulted in better stormwater outcomes or the potential for this?

Task 13. How many ICMPs are in place and how up-to-date are they? Are there ICMP plans in place to cover all catchments and receiving environments in the Auckland region?

Task 14. Have we developed and delivered strategies to improve information sharing and awareness-raising with internal and external stakeholders on the value of MBL ICMPs?

Task 15. How well-aligned are internal ARC stakeholders and their departments on the scope and purpose of ICMPs as used by ARC policy, planning, research, consents and compliance staff as well as by the same parties in the consent applicants' organisations?

ASSESSING PLAN QUALITY As required by timing of receipt of ICMPs and other relevant factors: Independent review

Task 8. How good are the ICMPs being produced? Is there good agreement on what a good plan is? Is an agreed plan assessment process in place? What are the trends in plan quality over time? Where can they be improved? How can we facilitate this improvement? How are stakeholders taking part in and responding to this process?

Task 9. Do ICMPs support network consent applications well?

Task 10. Are plans being implemented as envisaged?

LINKAGES AND OUTCOMES Every two years: Independent review in second half of 2007/08 financial year then as required

Task 5. What observable improvements occur that can be attributed to preparation and implementation of ICMPs? For example; improved links to land use planning processes; stormwater quantity and quality; receiving environment quality; freshwater and marine ecology; associated terrestrial ecological values; other bottom lines (e.g. social, cultural, financial, etc)?

Task 16. What is the quality of the relationship with each internal ARC and external TA or other stakeholder and how strong or weak is it? With whom do we have good communication and partnerships? What are the reasons for the findings?

Task 17. Are the links to land use (district and structure plans and other strategies) and asset planning processes improving?

WORKSTREAM STRATEGY REVIEW

Every three years (LTCCP review): By SWAT and internal and external stakeholders and reviewers as required

Refine ICMP workstream strategy based on evaluation learnings about process and outcomes using collaborative methods and measurable MBLs, put out Draft for comment to all internal and external stakeholders, Refine draft workstream strategy (which includes its evaluation process) in partnership with all major internal and external stakeholders

Every four years: By SWAT and internal and external stakeholders as required

Task 18. Is there greater public awareness of ICMPs?

Start preparing new workstream strategy and evaluation based on learnings about process and outcomes using collaborative methods and measurable MBLs, put out Draft for comment to all internal and external stakeholders, Refine draft workstream strategy (which includes its evaluation process) in partnership with all major internal and

external stakeholders.

☞ When doing this work, refer to the respective task numbers in Tables 3.1-3.4 for more detail about roles, responsibilities, indicators, data sources and methods and to section 4.1 overleaf.

5.1.2 Evaluation report: visual presentation of results

Table 10 shows an indicative scale for making qualitative assessments of the answers to each question in order to enable the results to be shown in simple bar or pie charts. An Excel-type format that allows comments to be included beside each one will enable the capture of key information explaining the results, for example by alluding to capacity in the ARC or TAs, or to synergistic or confounding factors.

Table 10 Indicative scale for making qualitative assessments

Evaluation question:			
Description	Achievement score	Rank	Comments
Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	

This format could be adapted to enable questions to be asked in different ways, for example questions about the quality of relationships or information sharing could use categories such as the value, friendliness, openness or level of trust of the relationship:

5: highly valued/friendly/open/trusting

4: moderately valued/friendly/open/trusting

3: valued/friendly/open, trusting

2: somewhat valued/friendly/open/trusting

1: not valued/friendly/open/trusting.

Appendix 5 has a detailed table suggesting how each evaluation question could be answered, although many will need refining.

5.2 Using the framework for the first evaluation

The first evaluation might take into account:

- the evaluation process be informed by the Bellagio principles (see below);
- the evaluation be conducted by teams comprising key internal and external stakeholders (including the SWAT) and an appropriate team of external expert evaluators as indicated in Table 4.1;
- the evaluation aim to identify how key outcomes contribute towards the achievement of the multiple bottom lines (MBLs) of the strategic objectives in the relevant statutory and non-statutory documents; and
- other evaluation questions and general suggestions that arise as all stakeholders have the opportunity to reflect on their work be documented for further consideration by all stakeholders as part of making any adjustments to the ICMP strategies and activities undertaken and promoted.

A number of evaluation principles have been developed, and of these the Bellagio principles are most relevant to the ICMP strategy. Developed in 1996 in Bellagio (Italy) by an international panel of measurement practitioners and researchers, they synthesise insights from practical ongoing evaluation efforts and were developed in response to the need for improved ways of assessing sustainable development (Trotman, 2005).

Appendix 7 contains a template for showing how the following ten principles can be applied to the evaluation:

1. Define sustainable development for each project.
2. Be holistic.
3. Consider essential elements.
4. Have an adequate scope.
5. Be practical.
6. Be open.
7. Communicate effectively.
8. Be participatory.
9. Undertake ongoing, reflexive assessment.
10. Ensure you have (and develop) the capacity to evaluate.

Recent best practice (Surowiecki, 2004) further indicates that large groups of peers are more effective at problem-solving than small groups of experts, and that such 'horizontal collectives' increase organisational agility.

In light of both the above, one option is the evaluation be conducted by a team comprising key internal and external stakeholders and appropriate external evaluators.

One of the benefits of formative evaluations is that they enable other questions and objectives to arise as all stakeholders have the opportunity to reflect on their work. As

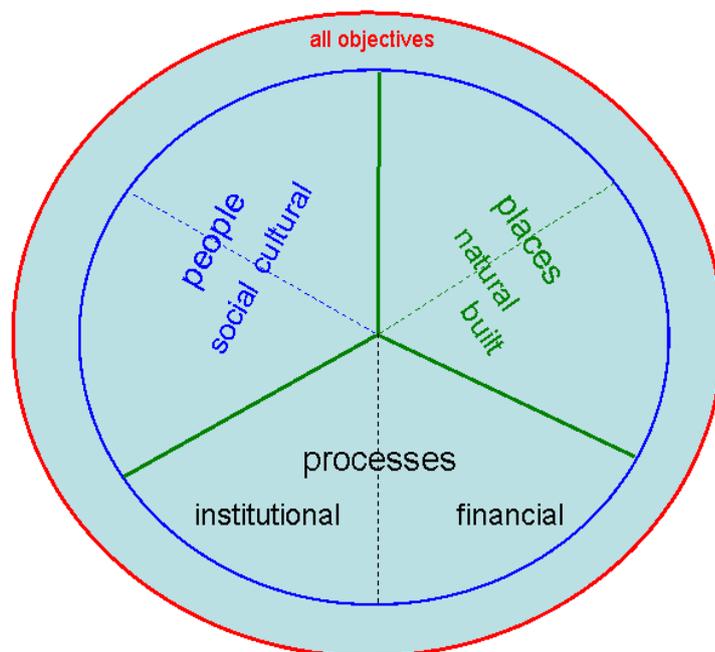
the evaluation is actually carried out, these should be documented for further consideration by all stakeholders as part of making any adjustments to the ICMP strategies and activities undertaken and promoted.

Appendix 2 contains a report on objectives and policies which have implications for the preparation of integrated catchment management plans. It is recommended that the evaluation team document how key outcomes contribute towards the achievement of the strategic objectives in the relevant statutory and non-statutory documents as summarised in that report and overviewed in the diagram below. A column is provided for this purpose in the evaluation tables (Tables 5 – 8) in section 4.

The detailed questions (Tables 1 – 4) that are not selected for data collection should be retained for future consideration.

Figure 10 Assessing the ICMP workstream strategy in terms of strategic MBL objectives

Source: Kettle, 2006; Trotman and Wood, 2006



5.3 Process for assessing plans

A key deliverable of the project is a process for assessing ICMPs. This is the first step in a major exercise in building the capacity of the region's wider catchment management industry. This project has therefore developed a draft assessment process, and it could be further developed and trialled with regional stakeholders and appropriate experts within and beyond the ARC as a way of collaborative learning and team and capacity-building.

A draft plan assessment process is in Appendix 6, and several steps in its further development are suggested below, with the aim of ensuring that stakeholders understand the benefits of assessing plans, and that the process is sufficiently collaborative, robust and transparent to gain traction with stakeholders as a team and capacity-building measure.

Key steps are to collaboratively:

- define a good plan, in terms of internal logic, scope and depth;
- develop a methodology for identifying key quantitative and qualitative metrics of plan quality, including full ICMPs as well as the "rapid assessment ICMPs" referred to in 5.3 and the plan assessment process proposed in Appendix 6;

- pilot the methodology by way of participatory workshops to help further develop it; and
- stage the implementation to further refine the assessment process to improve key areas as required and allocate resources appropriately.

Before consensus can be reached on the process for assessing plans, it needs to be responsive to the needs of TAs facing intense pressures of growth, which often do not give them much time to fully research all possible issues. The ARC has shown itself to be flexible in responding to such needs in the past, and the good plans activity and assessment process therefore need to accommodate both full ICMPs as well as enabling TAs to do rapid catchments assessments when required to keep ahead of growth.

5.4 Refining the strategy and updating the evaluation framework

The results of the first evaluation will yield invaluable information about the efficiency and effectiveness of the ICMP workstream strategy and the evaluation framework.

In the event that the SWAT refines its workstream strategy as a result of using the evaluation framework, Appendix 8 contains further information about building logic models and evaluating programme outcomes which may help inform this process.

5.5 Ongoing monitoring, data management and workstream evaluation

A bring-up system for routine annual tasks can be put into Microsoft Outlook and similar calendar programmes. The 10-year SWAT work plan can be used to bring up tasks that are done every two or more years.

The results of ongoing evaluations can be stored in spreadsheets, and if a lot of useful qualitative information is gained, Microsoft Access, Visio and other programmes allow linking of such material for ease of analysis. Hyperlinks within spreadsheets and documents can also help.

5.6 Reflection and learning

In conclusion, it is worthwhile noting that it is essential for all stakeholders, but especially the SWAT, to take time to identify, reflect on and absorb the learnings from the first evaluation. It may be desirable to run a workshop to enable a collaborative review of the results by key internal and external stakeholders.

One of the benefits of formative evaluations is that they enable other questions and objectives to arise as all stakeholders have the opportunity to reflect on their work. As the evaluation is actually carried out, it is recommended these are documented (see

section 4) for further consideration by all stakeholders as part of making any adjustments to the ICMP strategies and activities undertaken and promoted.

The ongoing development and evaluation of the ICMP workstream strategy will enable the ARC and its external stakeholders to become progressively more confident and competent with the use of logic models and programme monitoring and evaluation, thereby making a potentially significant contribution to growing the capacity of the wider industry.

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Appendix 1: Glossary

The definitions below of terms commonly used in monitoring and evaluation are drawn from the Treasury Board of Canada's Guide to the development of results-based management and accountability frameworks [monograph on the Internet]. Note that not all these terms have been used in this report, but they are commonly used in the literature on programme logic, monitoring and evaluation. Ottawa: Treasury Board of Canada Secretariat; 2001 (Accessed September 2007 from http://www.tbs-sct.gc.ca/eval/pubs/RMAF-CGRR/RMAF_Guide_e.pdf) and the WK Kellogg Foundation's Logic model development guide (Accessed September 2007 from www.wkkf.org/Pubs/Tools/Evaluation/Pub3669.pdf)

Accountability	The obligation to demonstrate and take responsibility for performance in light of agreed expectations. There is a difference between responsibility and accountability – responsibility is the obligation to act whereas accountability is the obligation to answer for an action.
Activities	An activity is an operation or work process internal to an organisation, intended to produce specific outputs (e.g. products or services). Activities are the primary link in the logic chain through which outcomes are achieved.
Attribution	The assertion that certain events or conditions were, to some extent, caused or influenced by other events or conditions. This means a reasonable connection can be made between a specific outcome and the actions and outputs of a government policy, programme or initiative.
Bottom lines	Triple bottom line is a management framework that allows an organisation to explicitly assess its economic, ecological and social performance. Quadruple-bottom-line assessments include cultural performance. The terminology of 'multiple bottom lines' has been adopted for this report to avoid the debate that sometimes takes place about the respective merits of triple versus quadruple frameworks. Figure 4.1 explains the six bottom lines used for this ICMP workstream strategy evaluation framework.
Business line	A mechanism for aligning collective effort and resources to strategic outcomes across a department's internal organisations. In smaller agencies, business lines may be synonymous with organisations but in larger, more complex departments, business lines are not likely to be organisationally based. Business lines function as forums for setting direction, ensuring coherence in programme delivery, establishing clear accountabilities for results across internal organisations, tracking and reporting on performance and providing a shared context for allocating resources to results.
Collective outcome	An outcome that is produced through the contributions of two or more departments or agencies, jurisdictions, or non-governmental organisations.
Community of practice	A community of practice may be defined as an affinity group, an informal network or forum where tips are exchanged and ideas generated or as a process of social learning that occurs when people who have a common interest in some subject or problem collaborate over an extended period to share ideas,

	find solutions, and build innovations.
Cost effectiveness	The extent to which an organisation, programme, etc. is producing its planned outcomes in relation to expenditure of resources. See also <i>Effectiveness</i> .
Effect	In logic models the term <i>effect</i> , like <i>impact</i> , is a synonym for <i>outcome</i> , although <i>impact</i> is somewhat more direct than an effect. Both terms are commonly used, but neither is a technical term. For technical precision, <i>outcome</i> is preferred for use in logic models, with <i>effect</i> being reserved for use in the context of the Resource Management Act.
Effectiveness	The extent to which an organisation, policy, programme or initiative is meeting its planned results. See also <i>Cost effectiveness</i> .
Efficiency	The extent to which an organisation, policy, programme or initiative is producing its planned outputs in relation to expenditure of resources.
Evaluation	The systematic collection and analysis of information on the performance of a policy, programme or initiative to make judgements about relevance, progress or success and cost-effectiveness and/or to inform future programming decisions about design and implementation.
External factors or influences	External influences include factors or events beyond the control of the organisation, policy, programme or initiative, which may enhance or impede the success of its activities. They may be positive or negative. Positive external factors, or synergies, are congruent with and/or operate to support the activities and intended outcomes. Negative external factors, or confounding factors, tend to compete, conflict or operate in opposition to the activities and intended outcomes.
Goal	A general statement of desired outcome to be achieved over a specified period of time. The term <i>goal</i> is roughly equivalent to <i>strategic outcome</i> . For technical precision, <i>strategic outcome</i> is preferred to <i>goal</i> (see also <i>objectives</i>).
Impact	<i>Impact</i> like <i>effect</i> is a synonym for <i>outcome</i> , although an <i>impact</i> is somewhat more direct than effect. Both terms are commonly used, but neither is a technical term. For technical precision, the term <i>outcome</i> is preferred to <i>impact</i> . See also <i>outcome</i> and <i>effect</i> .
Indicator	A statistic or parameter that provides information on trends in the condition of a phenomenon and has significance extending beyond that associated with the properties of the statistic itself.
Inputs	The human, material or financial resources used to carry out activities, produce outputs and/or accomplish results.
Logic model	A logic model is a picture, usually displayed as a flow chart, that describes how a system, organisation or project expects to produce benefits or results—essentially, the theory, evidence and assumptions underlying a programme. The model reflects a series of “if / then” statements. For example, if people involved in delivering A engage in activity B, then the result is output X. If another activity produces output D, then this will cause immediate outcome Y, and so on. A results-based logic model identifies the linkages between the activities of a policy, programme or initiative and the achievement of its outcomes. It sets out the results chain to show how the

	activities of a policy, programme or initiative are expected to lead to the achievement of the desired outcomes. See <i>Results chain</i>
Monitoring framework	Selection, development and on-going use of performance measures to guide corporate decision-making. The range of information in a performance measurement strategy could include: reach; outputs and outcomes; performance indicators; data sources; methodology; and costs. See also <i>performance measurement strategy</i> .
Strategic objectives	Strategic objectives define the high-level outcomes sought by the national, regional and territorial legislative, planning and other instruments that influence an ICMP as it is being prepared. These strategic objectives are not necessarily intended to be measurable. Refer to Part C Resources for a list of these objectives.
Operational objectives	Operational objectives set out the practical tasks that an ICMP recommends, and that are implemented by influencing other instruments. For the purposes of this project, these are intended to be measurable, either as expressed in an ICMP or its associated programme of works. They should be a clear and concrete statement of results (including outputs and outcomes) to be achieved within a specified time frame, against which actual results can be compared.
Outcomes	The significant external consequences attributed to an organisation, policy, programme or initiative that is considered significant in relation to its commitments. Outcomes can be described as immediate, intermediate or final; direct or indirect; and intended or unintended. See also the discussion of orders of outcomes in section 1.4.2.
Outputs	The direct products or services from the activities of a policy, programme or initiative, and are delivered to a target group or population.
Performance	How well an organisation, policy, programme or initiative is achieving its planned results measured against targets, standards or criteria. In results-based management, performance is measured and assessed, reported, and used as a basis for management decision-making.
Performance measurement strategy	Selection, development and on-going use of performance measures to guide corporate decision-making. The range of information in a performance measurement strategy could include: reach; outputs and outcomes; performance indicators; data sources; methodology; and costs. See also <i>monitoring framework</i> .
PEST (situation) analysis	An analysis of the Political/legal; Economic; Social/demographic and Technological context affecting a policy, programme or initiative. Typically, a PEST analysis is done first, followed by a <i>SWOT analysis</i> (see below).
Programme logic	A body of academic and applied theory that explains how programme activities lead to a programme's desired outcomes by conceptualising and testing the causal linkages in a programme.
Performance measure	An indicator that provides information (either qualitative or quantitative) on the extent to which a policy, programme or initiative is achieving its outcomes.
Performance monitoring	The on-going process of collecting information in order to assess progress in meeting Strategic Outcomes, and if

	necessary, provide warning if progress is not meeting expectations.
Performance reporting	The process of communicating evidence-based performance information. Performance reporting supports decision-making, serves to meet accountability requirements and provides a basis for citizen engagement and a performance dialogue with managers, elected representatives, the community and other stakeholders.
Planning, reporting and accountability structure (PRAS)	A PRAS defines an organisation's core business (business lines) and also defines its accountabilities, key measures and resource allocations. The PRAS policy aims to provide departments and agencies with a basis to plan and manage as well as to serve as a solid foundation for communicating performance information to stakeholders.
Reach	The individuals and organisations targeted and directly affected by a policy, programme or initiative.
Result	The consequence attributed to the activities of an organisation, policy, programme or initiative. <i>Result</i> is a general term that often includes both outputs produced and outcomes achieved by a given organisation, policy, programme or initiative. In logic models, the term <i>result</i> refers exclusively to <i>outcomes</i> .
Results chain	Also known as results-based logic model, results sequence, the results chain is the causal or logical relationship between activities and outputs and the outcomes of a given policy, programme or initiative, that they are intended to produce. Usually displayed as a flow chart. See <i>Logic model</i> .
Results-based management	A comprehensive, life cycle, approach to management that integrates business strategy, people, processes and measurements to improve decision-making and drive change. The approach focuses on getting the right design early in a process, implementing performance measurement, learning and changing, and reporting performance.
Results-based management and accountability framework (RMAF)	A document which serves as a blueprint for managers to help them focus on measuring and reporting on outcomes throughout the lifecycle of a policy, programme or initiative.
SWOT (organisational) analysis	An analysis of the Strengths; Weaknesses; Opportunities and Threats relating to an organisation, policy, programme or initiative. Strengths and weaknesses are normally interpreted as being internal; with opportunities and threats being external. Typically follows a <i>PEST analysis</i> (see above).
Target audience, group or population	The set of individuals or organisations that an <i>activity</i> is intended to influence.

Appendix 2: Strategic objectives that influence ICMPs in the Auckland Region

Overleaf is a report on objectives and policies which have implications for the preparation of integrated catchment management plans (Stewart, 2007).

It is recommended that the evaluation document how key outcomes contribute towards the achievement of the strategic objectives in the relevant statutory and non-statutory documents as summarised in that report and overviewed in the diagram below.

A column is provided for this purpose in the evaluation tables (Tables 5 – 8) in Section 4.

AUCKLAND REGIONAL COUNCIL

*OBJECTIVES AND POLICIES WHICH HAVE
IMPLICATIONS FOR THE PREPARATION OF INTEGRATED
CATCHMENT MANAGEMENT PLANS*

NOVEMBER 2007

Conway Stewart
Planning and Resource Management

Introduction

The purpose of this report is to provide a statutory and policy context or framework for the preparation and evaluation of Integrated Catchment Management Plans (ICMP). To this end the report discusses the role of ICMPs in the wider regional and national policy setting, and contains a table which summarises the key legislation and the plans and other policy documents which are relevant to ICMPs. Authors of ICMPs need to be aware of these as it is these documents against which they must measure the effectiveness of the management proposals in their plans. The aim is to ensure that an ICMP can achieve the integration assumed in its title and that its objectives give effect to or at least are not inconsistent with the “higher order” or “strategic” objectives and outcomes set out or inherent in the legislation and other documents. The objective of this report is to enable ICMP authors to be able to demonstrate that every one of the provisions of an ICMP is supporting or not inconsistent with an outcome which is stated or implied in legislation or in regional plans and policies. The other test will be for authors to be able to demonstrate that all of the relevant legislative and policy matters summarised in this report are provided for in the ICMP.

Purpose of Integrated Catchment Management Plans

The purpose of integrated catchment management plans (ICMPs) is to assess the need for and recommend measures within catchments which will achieve the sustainable management of river and stream catchments, which includes achieving environmental, social/cultural, and economic bottom lines.

The successful achievement of these bottom lines in ICMPs requires consideration not only of the ecology and physical characteristics and requirements of catchments but also the effects of cultural development such as urban and rural development which can affect the natural functioning of the catchment.

The title suggests that an ICMP needs to take into account all of the many processes that operate in a catchment. Its authors also need to be aware of the existing institutional and documentary framework within which the plan sits. It is therefore necessary for the authors of an ICMP to be aware, amongst other things, of all the other operative and relevant planning instruments which will affect its scope or direction.

Integrated catchment management plans are non statutory documents. They form the basis for an evaluation of the natural and physical resources of a catchment or catchments and act as an assessment of effects on the environment in support of applications for network discharge consents. They can only be implemented through regional and district plans, through resource consents, or by non statutory methods. Their provisions may also require support through the LTCCP and the Annual Plan. That is, they are a means of achieving an outcome through other legislative means. They are not an end in themselves. For this reason it is important that ICMPs are “useful” documents. If they are not they may be given relatively little weight.

Framework for ICMP Objectives

In order to improve the usefulness of ICMPs the ARC is undertaking a study which will provide guidance and training on how to formulate measurable ICMP objectives. As part of this study it is recognised that there are a range of types of objectives. These range from higher order, broad strategic objectives (such as may be contained in legislation) to the more detailed catchment specific objectives which an ICMP may contain. Strategic objectives may not be able to be quantified i.e. it may not be possible to prove statistically that they are being met. The catchment specific objectives of an ICMP on the other hand should be able to be measured. It is noted that

an ICMP can have broad strategic objectives near its beginning and develop catchment specific objectives within it as part of recommendations

While improving the measureability of ICMP objectives is very important it is also important that ICMPs are consistent with the objectives and other requirements of the legislation and other statutory documents. In this sense the authors of ICMPs need to look backwards as well as forwards. ICMPs are one of the practical means by which the higher order strategic objectives can be achieved.

The relevant legislation is couched in general terms. Sustainable management is the key principle, recognising the need to provide for the needs of present and future people and communities while at the same time ensuring that the environment is not used or degraded unnecessarily and any adverse effects of activities on the environment are avoided, remedied or mitigated.

It is important to acknowledge and stress that there is a hierarchy of relevant provisions. Legislation is the most important and is at the top of the hierarchy. At the next level are national policy statements (NPS) such as the NZ Coastal Policy Statement. Below that again are the regional plans and policy statements, which must be consistent with relevant legislation and NPS. Below the regional plans and policy statements are district plans. District plans and regional policy statements must be consistent with the legislation and NPS as well as with regional policy statements. As a practical example an ICMP must incorporate the concept of sustainable management of natural and physical resources because this is a fundamental requirement of the Resource Management Act 1991.

As part of the Measurable ICMP Objectives project a chart has been produced which illustrates the complex relationship between ICMPs and the wider policy network. This chart is attached as Appendix 1.

At a "lower" level the Auckland Regional Council has published a number of Technical Publications (TPs). These do not contain objectives. They are practical "how to" documents. Technical Publications provide guidance on a range of matters, including ecological or scientific information through to "how to" undertake various management methods to avoid, remedy or mitigate adverse effects. TPs are very useful documents but not so much in respect of determining ICMP objectives. However it will be valuable for ICMP authors to be aware of the range of the TPs and for this reason they are summarised in this report.

The objectives referred to in this report are generally "higher order" or strategic objectives which do not apply specifically to particular areas or catchments within the

region. While the catchment specific vision or strategic objectives of ICMPs have to be consistent with the higher order objectives in legislation and other documents, operational ICMP objectives should be more specific and measurable.

The objectives are targets for ICMPs to aim at achieving but there are also a large number of ARC and other technical reports and guidelines which have relevance to catchment management. These documents are more practical . and they provide guidance on how to manage catchments so as to achieve the results which are being aimed at in the ICMPs.

Auckland Regional Growth Strategy

In this regard it is important to note that the Auckland Regional Growth Strategy, including the Sector agreements, and the Proposed Changes to the Auckland Regional Policy Statement establish the context for urban growth and development in the region. These documents are designed to direct how and where urban development will take place into the future. These policy directives will have a significant impact on catchment management because they will result in more or less development in particular catchments, which must be addressed by the ICMP. They should also provide guidance on the timing and sequencing of new development and may assist to prioritise future ICMPs.

Best Practical Option

An important concept in the management of catchments is that of best practical option. Section 108(2)(e) of the Resource Management Act 1991 states

A resource consent may include any one or more of the following conditions:-

.....

- (e) Subject to subsection (8), in respect of a discharge permit or a coastal permit to do something that would otherwise contravene section 15 (relating to the discharge of contaminants) or section 15B, a condition requiring the holder to adopt the best practical option to prevent or minimise any actual or likely adverse effect on the environment of the discharge and other discharges (if any) made by the person from the same site or source.*

The definition of best practical option is given in s.2 of the Resource Management Act 1991 and is as follows:

Best practical option in relation to a discharge of a contaminant or an emission of noise, means the best method for preventing or minimising the adverse effects on the environment having regard among other things to –

- (a) The nature of the discharge or emission and the sensitivity of the receiving environment to adverse effects; and*

- (b) *The financial implications, and the effects on the environment, of that option when compared with other options; and*
- (c) *The current state of technical knowledge and the likelihood that the option can be successfully applied:*

The best practical option therefore varies both in time and location and according to the adverse effects which are being addressed. This is a challenge for ICMP authors but it is one which must be dealt with if the plan is to achieve its purpose.

Documents Reviewed

The documents which are reviewed here and which have relevance to the preparation of ICMPs are as follows. Staff of the ARC provided summaries of the objectives and policies contained in the regional documents, from which the tables were compiled. The other documents were researched by the author.

Legislation

RMA	Resource Management Act 1991
HGMPA	Hauraki Gulf Maritime Park Act 2000
LGA	Local Government Act 2002

Plans

LTCCP	Long Term Council Community Plan (Auckland Regional Council)
ARPS	Auckland Regional Policy Statement
ARP:ALW	Proposed Auckland Regional Plan: Air Land and Water
ARP:C	Auckland Regional Plan: Coastal
ARP:SC	Auckland Regional Plan: Sediment Control
ARP:FDD	Auckland Regional Plan: Farm Dairy Discharges
ARGS	Regional Growth Strategy and its review
ASF	Auckland Sustainability Framework
RPMP	Auckland Regional Parks Management Plan

Technical Publications

TP10	Stormwater Treatment Devices Design Manual
TP90	Erosion and Sediment Control Guidelines
TP108	Guidelines for Stormwater Runoff Modelling in the Auckland Region
TP124	Low Impact Design Guideline

TP131	Fish Passage Guidelines for the Auckland Region TP148 = Riparian Zone Management
TP237	Management and Treatment of Stormwater Quality Effects in Estuarine Areas

SUMMARY OF DOCUMENTARY CONTEXT FOR ICMPs

The following table (Table 1) summarises those parts of the key objectives and policies and statutory requirements which have the most relevance to ICMPs. It is arranged by topic, in an effort to make it more user friendly for ICMP authors. It is to a large degree a check list to ensure that they are aware of the existing documentary environment within which they must operate.

Table 2 contains the same information but is arranged in order of legislation and planning documents which contain procedural or jurisdictional matters which provide justification for the preparation of ICMPs. This table is mainly for background information.

Table 3 is arranged in order of source document. It contains all of the information which is in Tables 1 and 2.

As a cautionary note it also needs to be stated that statutory requirements and plans and policies change from time to time. Authors are advised to check for any changes or modifications before embarking on an ICMP.

The tables capture the essence of the matters in the relevant legislation and “higher order” planning documents which have relevance to and must be addressed by integrated catchment management plans. Table 1 is arranged by topic and may prove to be the most useful to ICMP authors.

All of the tables are summaries . They do not quote verbatim and should be used with that qualification in mind.

Table 7 Objectives by Topic

<p><i>Sustainable management of natural and physical resources</i></p> <p>This is the fundamental overarching requirement of the RMA which must be reflected in ICMPs. Sustainable management is defined in s.5 of the Act and can be summarised as providing for the present and reasonably foreseeable future needs of people and communities while at the same time safeguarding the life supporting capacity of the environment and avoiding remedying or mitigating the adverse effects of activities on the environment. Sustainable management of natural and physical resources is of fundamental relevance to ICMPs. If an ICMP does not promote or result in sustainable management it has failed in its mission. For ICMPs sustainable management is a challenge because it requires that the needs of people are met while at the same time protecting the environment.</p>		
RMA	s.5	Sustainable management of resources i.e. providing for the present and future needs of people while avoiding remedying or mitigating adverse effects of activities on the environment
HGMPA	s.7	To recognise, as a matter of national significance, the interrelationship between the Hauraki Gulf, its islands, and catchments and the ability of that interrelationship to sustain the life-supporting capacity of the environment of the Hauraki Gulf
HGMPA	s.8	The maintenance and enhancement of the resources of the Hauraki Gulf catchment which contribute to the well being of people and communities of the Gulf
HGMPA	s.7	To maintain the soil, air, water, and ecosystems of the Gulf and its catchments
HGMPA	s.7	To provide for the well being of people and communities and to maintain the soil air water and ecosystems of the Gulf and its catchment.
ARGS	Intro.	<i>Sustainable use and protection of the region's resources (including infrastructure) is an objective</i>
ARP:ALW	s.7	<i>Maintain fish passage when any new structures are proposed</i>
ARP:C	s.5.3.2	<i>To protect the integrity, functioning and resilience of ecosystems within the coastal environment</i>
<p><i>Integrated Management</i></p> <p>It is required that integrated management of the region's resources is achieved and catchment management plans have an important part to play in that integration. In this regard catchment management must be aware of and take into account all of the factors which affect the catchment. These include not just the physical matters such as water quantity and quality but other matters as well, as set out below. The relevance of integrated management in ICMPs is that it helps to make the connections between human activities and the operation of natural systems within catchments. The management of catchments to achieve sustainable management of natural and physical resources requires the integration of the many systems both natural and cultural in the catchment.</p>		
HGMPA	s.3	To integrate the management of the resources of the Hauraki Gulf including its catchment
ARPS	s.2	To achieve integrated management of land and water areas

HGMPA	s.7	To use the resources of the Gulf for economic activities and recreation
ARP ALW	5.3.6	To achieve integrate management of stormwater and wastewater diversions and discharges through ICMPs.
	5.3.7	To recognise and have regard to the contribution that stormwater and wastewater networks make to the sustainability of the region's environment
<p>Regional Growth Strategy</p> <p>The Regional Growth Strategy (RGS) is an important tool to direct and manage growth within the Auckland Region. The RGS will have a significant effect on some catchments and will drive the type of catchment management provisions which are effective and appropriate given the growth that is anticipated in the catchment. Conversely the implementation of the RGS may be influenced by the physical or cultural limitations or potential of the catchment. Integration of catchment management plans and the RGS is essential. Change 6 to the RGS translates the strategy into Regional Policy Statement objectives, policies, and methods. Consequently there is close linkage between the RGS and ICMPs as the achievement of the RGS will depend to some extent on the management measures which are sustainable in a particular catchment. For example if the RGS proposes major urban growth in a catchment which will significantly increase stormwater flows there must be dialogue to determine whether the RGS needs to be amended or whether the necessary catchment management measures to deal with the stormwater are sustainable in the wider environment. The review of the RGS (Regional Growth Forum, July 2007) also identified several key natural environment and natural heritage issues that ICMPs can address. These are included.</p>		
ARGS	Ch.2	The Growth Concept recognises the value of streams as an important urban amenity which is highly susceptible to degradation by stormwater runoff from impervious urban surfaces
ARPS	8.4.21	avoid using areas for urban development which drain to areas susceptible to degradation
ARGS	Ch.4	Catchment management plans are to be consistent with regional growth strategy issues
ARGS	Ch.4	The Growth Strategy will be implemented through sector based studies and programmes of which ICMPs will be an integral part
ARGS	Ch.4	Priorities for funding of regionally significant infrastructure take into account the need to upgrade stormwater and wastewater infrastructure in urban areas to provide for intensification opportunities;
ARGS	Ch.4	ICMPs are to be coordinated with intensification corridors and centre plans
ARPS	Ch.8	Allocate use of water
<p>Review of the RGS (Regional Growth Forum, July 2007)</p> <p>This Review summarises progress and challenges with implementing the Regional Growth Strategy and the section entitled "Lessons from the evaluation" states that the following are needs which are relevant to ICMPs</p>		

RGS Review	5.5.9	<ul style="list-style-type: none"> • Need to implement the Auckland Regional Open Space Strategy, and further develop urban parks with links to the waterfront and natural spaces within the urban area • Need to protect areas from urbanisation through the identification of ‘no go’ areas – (these would be areas with high environmental and heritage values, or areas that are vulnerable to climate change) • Need to strengthen natural protection of existing natural areas by restoring ecological linkages through a regional natural network • use natural systems and processes in urban and infrastructure design, and place a greater emphasis on green engineering solutions for the built environment • need to develop tools to manage pressures in rural and coastal areas • need to review and revise current policies to ensure regulative and economic instruments create bridges, not barriers, to sustainable practices.
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Auckland Sustainability Framework

The Auckland Sustainability Framework establishes 8 goals and a greater number of strategic responses to those goals. Their achievement will depend in part on a change in the way we think about the way we live and the decisions we make about development. The goals cover a wide range of topics. Of particular relevance to ICMPs is goal 3 which relates to the achievement of a unique and outstanding environment. The strategic responses to this objective are as follows

ASF	Goal 3	Strategic responses - <ul style="list-style-type: none"> • Utilise low impact design • Undertake reforestation • Improve ecosystems through restoration, reforestation and effective pest management • Care and protect the mauri of water and other natural taonga • Provide adequate funding for environmental restoration efforts
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Cultural Matters

ICMPs must take into account and provide for cultural issues in the catchment and matters of historic heritage and importance. This includes both Maori and other cultural issues. ICMP authors must make themselves aware of specific and relevant cultural matters in the catchment in order to ensure that the ICMP provisions provide for and are consistent with them. The relevance of cultural matters to ICMPs is that authors need to be aware of traditional Maori values with respect to water and its management. There are appropriate and inappropriate ways of managing water. Similarly there may be historical aspects which need to be considered in the management of water. An historic bridge or mill site for example may need to be taken into account in managing the catchment.

RMA	s.6	Protect historic heritage from inappropriate subdivision use and development
RMA	s.8	Take into account Treaty of Waitangi
HGMPA	s.77	In respect of any decision which a Council makes it must seek to identify all reasonably practicable options for the achievement of the objective of a decision and assess the costs and benefits of those alternatives against economic, environmental and cultural bottom lines, and also take into account the relationship of Maori and their culture and traditions with their ancestral land, water, sites, waahi tapu, valued flora and fauna, and other taonga.
ARPS	9.4.10	recognise and provide for Maori values;

ARP:SC	5.1.2	Sustain the mauri of water in waterbodies, ancestral lands, sites waahi tapu and other taonga
<p>Natural Character / Quality of the Environment</p> <p>Insofar as the streams and wetlands within a catchment have natural character values these are to be preserved and enhanced where possible from inappropriate subdivision use and development. It is not required that natural character is retained at all costs but that if there is to be any change it is required that it be appropriate in terms of sustainable management of natural and physical resources. This is a challenge for ICMPs because the natural character of catchments may be under threat from urban development and managing the effects of urban growth in such a way as will preserve and enhance natural character may be difficult. This is a situation where designing “with nature” wherever possible is a good strategy.</p>		
RMA	s.6	Preserve natural character from inappropriate subdivision use and development.
ARPS	Ch.7 & 9	preservation and protection of natural character
RMA	s.6	Protect outstanding landscapes and features from inappropriate subdivision use and development.
ARP:ALW	2.1.3.2	Preserve natural character of wetlands and rivers
ARGS	Intro.	The region’s natural environment is to be protected and maintained
ARP:C	10.3.3	Maintain where appropriate the open space nature of the coastal environment;
ARP:C	13.3.2	To ensure that where reclamation or drainage of the coastal environment is considered appropriate, the adverse environmental effects on the coastal environment are avoided, remedied, or mitigated
ARP:C	13.3.1	To avoid inappropriate reclamation or drainage of the coastal environment
ARP:C	4.3.2	To maintain and enhance the diversity, integrity and landscape quality of the coastal environment.
<p>Wetlands and indigenous vegetation and habitats</p> <p>ICMPs should have as an important part of their focus the protection of wetlands and indigenous vegetation and fauna and the avoidance of inappropriate development. While the ICMP should have a more important role in determining the location of development, the effects of development are of concern and the ICMP can inform decision makers of those effects. The relevance of this topic is that wetlands can be used positively in catchment management both in terms of hydrology and also in terms of the provision of habitat for indigenous species and for amenity purposes as well.</p>		
RMA	s.6	Protect wetlands and rivers from inappropriate use and development
RMA	s.6	Protect significant indigenous vegetation and fauna from inappropriate subdivision use and development.
ARP:ALW	2.1.3.3	Protect significant indigenous vegetation and habitats;

Public Access

Maintaining or enhancing public access to streams and water bodies as part of catchment management is important. Public access to and use of water can support and enrich recreation and open space opportunities in the region and contribute to sustainable management of resources. ICMPs have an important role to play in this respect by providing those opportunities.

RMA	s.6	Maintain/enhance public access
ARPS ARP:ALW	2.2	maintain and enhance public access to rivers and coast;

Best Practical Option

The best practical option is required to be used to avoid remedy or mitigate any adverse effects of stormwater discharges. The best practical option definition in the RMA means that BPOs need to take into account a number of considerations including financial implications and comparison of options. An ICMP needs therefore to include explanation as to why the particular measures being proposed represent BPO.

ARP:ALW	2.2.4.1	Use and development of water within MUL is appropriate where it is consistent with ARPS and RGS and adverse effects are minimised by use of BPO
ARP:ALW	5.3.8	Achieve integrated management of stormwater diversions and wastewater discharges through ICMPs or resource consents and to achieve BPO, consistent with ARGS and Sector agreements
ARP:C	17.3.2	Adopt BPO to avoid remedy or mitigate adverse effects from stormwater and wastewater discharges;

Flooding / Natural Hazards

One of the important requirements of ICMPs is the need to implement works and management techniques to avoid, remedy or mitigate the effects of flooding. From an engineering point of view this may be seen as one of the critical purposes of catchment management. This is undoubtedly true but an ICMP has a wider purpose.

Despite this important requirement flooding is referred to infrequently in higher order documents but it is an important element of sustainable management of natural and physical resources

ARPS	11.3	address adverse effects of natural hazards
ARP:ALW	Ch 7	Structures not to cause more than minor impediment to flood flows
ARPMP	27.1.1.1	To manage the risk of flooding, land instability and coastal erosion to park visitors, park assets and the environment.
ARP:C	18.3.4	To enable planting in the coastal environment where it will avoid, remedy or mitigate coastal instability, or enhance the ability of natural features to protect subdivision, use or development.
ARP:SC	7.1.1	Reduce exposure of land to risk of surface erosion;

Water Quality and Quantity

It is an essential requirement of an ICMP that it addresses issues relating to water quality and quantity. Essentially ICMPs should maintain or enhance water quality and address issues of water quantity, including allocation where relevant and groundwater recharge. The higher order legislative requirements and objectives refer to maintaining or enhancing. Degradation of quality and quantity is not given as an objective in any circumstance although as part of sustainable management of resources it might be inevitable as for example a consequence of urban development which is promoted by the regional growth strategy.

ARPS	0.8.3	maintain and enhance water quality, maintain water quantity, allocate use of water
ARP:ALW	5.3.1	Protect maintain and enhance the quality of land and water in the region
ARP:ALW	5.3.3	Minimise changes in natural infiltration rates and stormwater runoff volumes
ARP:SC	5.3.1	Maintain or enhance quality of water in water bodies;
ARP:ALW	5.3.5	Prevent or minimise adverse effects of stormwater and wastewater discharges
ARP:ALW	5.3.2	Treat and re-use sewage and wastes in a sustainable manner;
ARPS	8.4.4	control sediment, stormwater, sewage, and groundwater recharge
ARP:FDD	4.1	Maintain and enhance water quality
ARGS	Ch.2	Maintain or improve water quality in streams in all catchments
ARP:FDD	7.1.2	Minimise sediment discharge to receiving environment

Table 2 – Procedural and Jurisdictional Aspects

Procedural / Jurisdictional		
There are a number of procedural or jurisdictional matters relating to the powers and responsibilities of various organisations which have some bearing on the preparation of ICMPs and provides justification for them		
RMA	s.30	Sets out functions of regional councils which include integrated management of natural and physical resources, water quality, quantity, discharges of contaminants, soil conservation, control of natural hazards, control of planting
HGMPA	s.7	The Act does not limit or affect any rights of ownership of land in the catchment of the Gulf.

HGMPA	s.9	No part of a regional plan may conflict with this Act
HGMPA	s.9	S. 7 and 8 of this Act have the effect of a national policy statement.
LGA	s.78	A local authority must, in the course of its decision-making process in relation to a matter, give consideration to the views and preferences of persons likely to be affected by, or to have an interest in, the matter.
ARC Annual Plan	Ch.2	Proactively work with infrastructure operators and partially fund the development of ICMPs;
ARC LTCCP	Ch.2	Proactively work with infrastructure operators and partially fund the development of ICMPs; Develop policies for management of water resources, including stormwater management, between 2007- 2016 A regional stormwater implementation plan will deliver policies as well as provision of infrastructure
ARGS	Ch.3	Emphasis on cooperation with other agencies in the preparation of ICMPs and the integration in ICMPs of relevant objectives and proposals from other plans
ARP:ALW	Ch.5	Programmes for maintenance and upgrading of infrastructure as part of BPO. Recognition of funding issues and priorities

Table 3 – Summary of Objectives by Source Document

Legislation

Source Document	Section	General nature /content
RMA	s.5	Sustainable management of resources i.e. providing for the present and future needs of people while avoiding remedying or mitigating adverse effects of activities on the environment;
		Preserve natural character.
	s.6	Protect historic heritage from inappropriate subdivision use and development
	s.6	Protect wetlands and rivers from inappropriate use and development
	s.6	Protect significant indigenous vegetation and fauna.
	s.6	Maintain/enhance public access, amenity, quality of the environment.
	s.8	Take into account Treaty of Waitangi
	s.30	Sets out functions of regional councils which include integrated management of natural and physical resources, water quality, quantity, discharges of contaminants, soil conservation, control of natural hazards, control of planting

HGMPA	s.3	To integrate the management of the resources of the Hauraki Gulf including its catchment,
	s.7	To recognise, as a matter of national significance, the interrelationship between the Hauraki Gulf, its islands, and catchments and the ability of that interrelationship to sustain the life-supporting capacity of the environment of the Hauraki Gulf
	s.7	To provide for the well being of people and communities and to maintain the soil air water and ecosystems of the Gulf and its catchment.
	s.7	To use the resources of the Gulf for economic activities and recreation
	s.7	to maintain the soil, air, water, and ecosystems of the Gulf. And its catchments
	s.7	The maintenance and enhancement of the resources of the Hauraki Gulf catchment which contribute to the well being of people and communities of the Gulf
	s.7	No part of a regional plan may conflict with this Act
	s.8	S. 7 and 8 of this Act have the effect of a national policy statement.
	s.9	The Act does not limit or affect any rights of ownership of land in the catchment of the Gulf.
	s.9	
s.14		
LGA	s.77	In respect of any decision which a Council makes it must seek to identify all reasonably practicable options for the achievement of the objective of a decision and assess the costs and benefits of those alternatives against economic, environmental and cultural bottom lines, and also take into account the relationship of Maori and their culture and traditions with their ancestral land, water, sites, waahi tapu, valued flora and fauna, and other taonga.
	s.78	A local authority must, in the course of its decision-making process in relation to a matter, give consideration to the views and preferences of persons likely to be affected by, or to have an interest in, the matter.

Table 4 - Relevant Policy Documents

Source Document	Section or Ref. No. (O= objective, P= policy)	General nature /content of objectives and policies

ARPS	<p>O 7.3.1 – 7.3.10, P 7.4.4.1, P 7.4.7, P 7.4.10 P 7.4.13, O 8.3, P 8.4.4, P 8.4.7, P 8.4.10, P 8.4.16, P 8.4.21, P 8.4.2.4, O 9.3, P 9.4.1, P 9.4.4, P 9.4.7, O 11.3, P 11.4.1</p>	<p>achieve integrated management of land and water areas including the preservation and protection of natural character;</p> <p>maintain and enhance public access to rivers and coast;</p> <p>maintain and enhance water quality;</p> <p>maintain water quantity;</p> <p>allocate use of water;</p> <p>control sediment, stormwater, sewage, and groundwater recharge;</p> <p>avoid using areas for urban development which drain to areas susceptible to degradation;</p> <p>recognise and provide for Maori values;</p> <p>address adverse effects of natural hazards</p>
ARP: ALW	<p>O2.1.3.2, O2.1.3.3, P2.2.4.1; O5.3.1; O5.3.2; O5.3.3; O5.3.5; O5.3.6 O5.3.7; O5.3.8; O7.3.1; O7.3.2; O7.3.3; P7.4.14; P7.4.15;</p>	<p>Preserve natural character of wetlands and rivers and protect from inappropriate use and development;</p> <p>Protect significant indigenous veg. and habitats;</p> <p>Use and development of water within MUL is appropriate where it is consistent with ARPS and RGS and adverse effects are minimised by use of BPO;</p> <p>Protect maintain and enhance the quality of land and water in the region;</p> <p>Treat and re-use sewage and wastes in a sustainable manner;</p> <p>Minimise changes in natural infiltration rates and stormwater runoff volumes;</p> <p>Prevent or minimise adverse effects of stormwater and wastewater discharges;</p> <p>Achieve integrated management of stormwater diversions and wastewater discharges through ICMPs or resource consents and to achieve BPO, consistent with ARGs and Sector agreements;</p> <p>Maintain fish passage when any new structures are proposed;</p> <p>Structures not to cause more than minor impediment to flood flows</p>

ARP:C	4.3.1	To protect Outstanding Landscapes, and the key elements, features and patterns of Regionally Significant Landscapes (as identified in the Plan Maps) from inappropriate subdivision, use and development in the coastal environment.
	4.3.2	To maintain and enhance the diversity, integrity and landscape quality of the coastal environment.
	5.3.2	To protect the integrity, functioning and resilience of ecosystems within the coastal environment
	10.3.3	Maintain where appropriate the open space nature of the coastal environment;
	13.3.1	To avoid inappropriate reclamation or drainage of the coastal environment.
	13.3.2	To ensure that where reclamation or drainage of the coastal environment is considered appropriate, the adverse environmental effects on the coastal environment are avoided, remedied, or mitigated.
	17.3.2	Adopt BPO to avoid remedy or mitigate adverse effects from stormwater and wastewater discharges;
	18.3.4	To enable planting in the coastal environment where it will avoid, remedy or mitigate coastal instability, or enhance the ability of natural features to protect subdivision, use or development.
ARP:SC	5.1.1;	Maintain or enhance quality of water in waterbodies;
	5.1.2;	Sustain the mauri of water in waterbodies, ancestral lands, sites waahi tapu and other taonga;
	7.1.1;	Reduce exposure of land to risk of surface erosion;
ARP: FDD	4.1	Maintain and enhance water quality
	7.1.2	Minimise sediment discharge to receiving environment

ARGS	Intro.	<p>The region's natural environment is to be protected and maintained;</p> <p>Sustainable use and protection of the region's resources (including infrastructure) is an objective;</p> <p>Maintain or improve water quality in streams in all catchments;</p> <p>The Growth Concept recognises the value of streams as an important urban amenity which is highly susceptible to degradation by stormwater runoff from impervious urban surfaces;</p>
	Ch.2	<p>Emphasis on cooperation with other agencies in the preparation of ICMPs and the integration in ICMPs of relevant objectives and proposals from other plans;</p>
	Ch.3	<p>Catchment management plans are to be consistent with regional growth strategy issues;</p>
	Ch.4	<p>The Growth Strategy will be implemented through sector based studies and programmes of which ICMPs will be an integral part;</p> <p>Priorities for funding of regionally significant infrastructure take into account the need to upgrade stormwater and wastewater infrastructure in urban areas to provide for intensification opportunities;</p> <p>ICMPs are to be coordinated with intensification corridors and centre plans</p>
LTCCP	Ch.2	<p>Proactively work with infrastructure operators and partially fund the development of ICMPs;</p> <p>Develop policies for management of water resources, including stormwater management, between 2007- 2016</p> <p>A regional stormwater implementation plan will deliver policies as well as provision of infrastructure</p>
ARC Annual Plan	Ch.2	<p>Proactively work with infrastructure operators and partially fund the development of ICMPs;</p> <p>Support low impact design approaches to stormwater and land management;</p> <p>Processing and compliance monitoring of resource consents to discharge contaminants to land and to carry out earthworks and streamworks activities</p>
ARPMP	14.1.2.1	<p>To consult with individuals groups and agencies with interests in regional parkland;</p>
	16.1.1.1	<p>Park management that seeks to avoid or minimise adverse effects on neighbours and adjoining land and coastal area;</p>
	27.1.1.1	<p>To manage the risk of flooding, land instability and coastal erosion to park visitors, park assets and the environment.</p>
ASF	Goal 3	<p>Strategic responses -</p> <ul style="list-style-type: none"> • Utilise low impact design • Undertake reforestation • Improve ecosystems through restoration, reforestation and effective pest management • Care and protect the mauri of water and other natural taonga • Provide adequate funding for environmental restoration efforts

Relevant Technical Publications

Source Document	Section or Ref. No. (O= objective, P= policy)	General nature /content of objectives and policies
TP10		Stormwater Treatment Devices Design Manual
TP90		Erosion and sediment Control guidelines, in support of Proposed Regional Plan: Sediment Control
TP 108		Guidelines for Stormwater runoff Modelling in the Auckland Region
TP 124		Contains advice relating to low impact design solutions to erosion and sediment control and stormwater management
TP 131		Contains advice relating to construction of fish passages.
TP 148	Ch.6	<ol style="list-style-type: none"> 1. To safeguard the life - supporting capacity of water and aquatic ecosystems from the adverse effects of subdivision, use and development. 2. To enable people and communities to use and develop freshwater resources to provide for their social, economic and cultural well-being. 3. To promote conservation values by promoting riparian zones which maintain or enhance the natural functioning of the adjacent sea, river, or lake, and also water quality, aquatic habitats and natural values, and which mitigate natural hazards and provide detailed guidance on how to do it. 4. To focus on retaining and enhancing riparian zones where they exist, and restoring them where they do not but could exist, in rural areas, greenfield developments, existing urban areas, regional and other parks and areas where other initiatives make them desirable. 5. To improve public understanding of the importance of riparian vegetation in catchment ecosystems, and, coupled with well defined goals and environmental values, to lead to a widespread acceptance of riparian zone management as a 'tool' for total catchment management. 6. To encourage a wide range of land owners and/or community interests to form LandCare Groups or catchment associations and initiate their own best management practices with the help of this Guideline. 7. To monitor and report on progress in retaining, enhancing and restoring riparian zones in numerical terms using widely accepted indicators. (numbers, areas and observable benefits, under development by MfE).
TP 237		<p>ICMPs need to</p> <ul style="list-style-type: none"> • recognise the results of monitoring which identify contaminated areas and the extent of effects both within the settling zone and wider harbour; • consider the use of treatment to meet both short and long term contaminant reduction needs; • acknowledge that stormwater ponds should be installed early in the land use development phase to achieve the greatest benefit- i.e. before the contaminant levels in the receiving environment become high; • where effects in the settling zone are already high, consider the need for implementing measures to prevent harbour effects; • consider the development and implementation of innovative treatment technology and source controls to achieve higher levels of contaminant reduction; • in the context of the wider harbour, integrate the effects of contaminant loads and treatment for all catchments. It may also be necessary to consider the use of priority catchments so that catchments that contribute the highest contaminant loads receive the highest levels of treatment.

Notes

- Some of the provisions of the Auckland Regional Plan: Air Land and Water are still subject to appeal. Those that are still in dispute are marked thus
- BPO = Best Practicable Option
- S.30 of RMA is particularly important in defining the range of regional council functions. Section 31 sets out these functions for district councils
- The Hauraki Gulf Maritime Park Act has the effect of a national policy statement
- Coastal environment includes land areas where there is a coastal influence

Method for formulating QBL measurable ICMP objectives

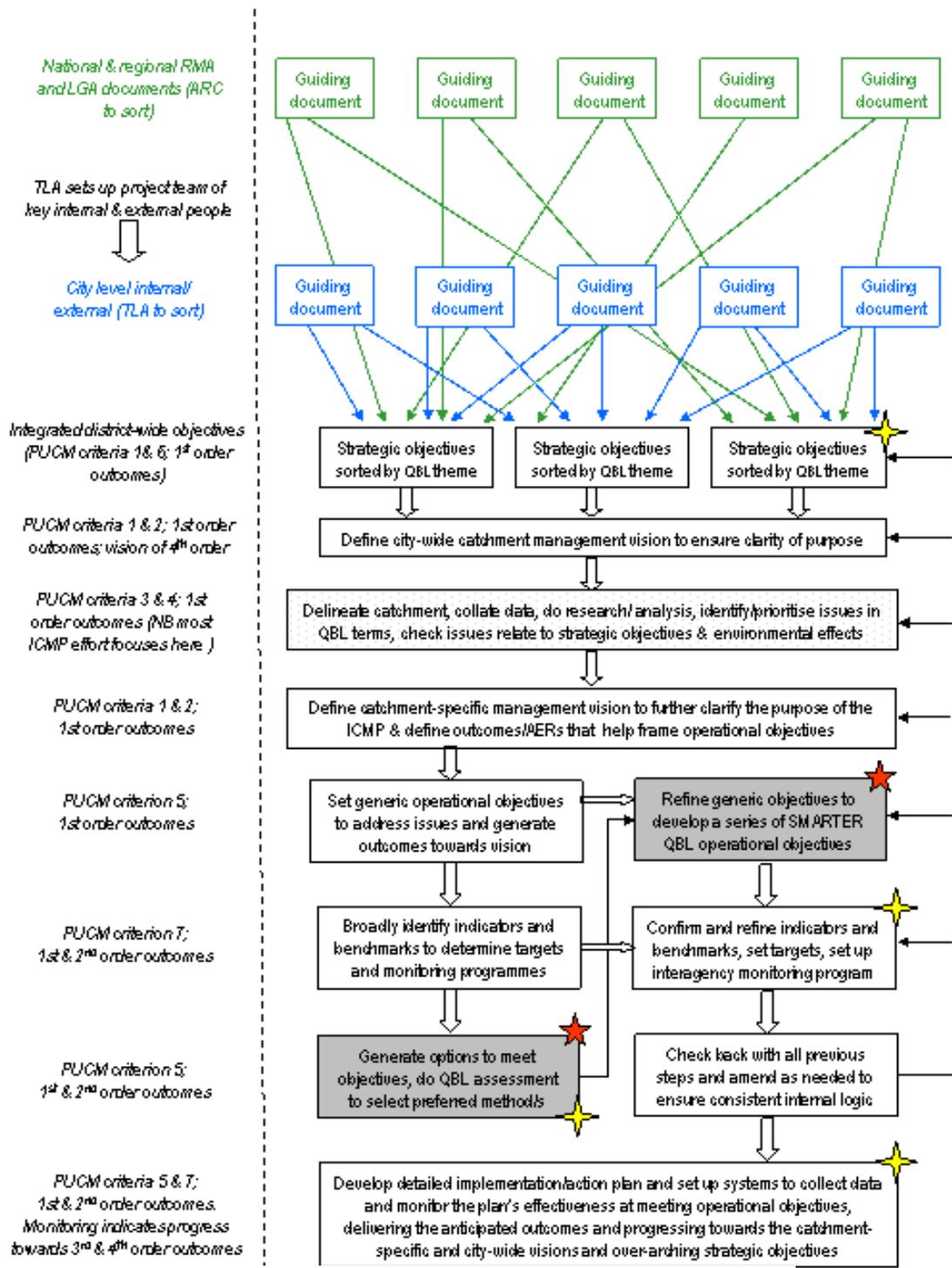


Figure 1 Method for formulating QBL measurable ICMP objectives

- ★ Core project deliverables
- ✦ Recommendations for further work (also see others in the final completion report)

Appendix 3: Stated aims and objectives of catchment management plans in Auckland

A total of 51 catchment and/or flood management plans in the ARC and Manukau City Council offices were reviewed to ascertain their objectives, by Nigel Mark-Brown of Environmental Context Ltd, a member of the Environment and Business Group. A number of objectives representative of the documents reviewed are summarised below.

Table 15 Review of representative documents

Date	TA - location	Comment on aims and/ or objectives
1992	North Shore City Council: 5 separate CMPs at different locations	No “objectives” but “methods of catchment management planning should address all of the principal concerns”: <ul style="list-style-type: none"> • Conveyance of runoff to a satisfactory point of disposal • Flood levels and safe building levels above these • Environmental impact of lined and unlined watercourse • Erosion control • Control of pollutants (water quality)
1993	Manukau City Council: 22 separate CMPs at various locations	No overall objectives, but six aims: <ol style="list-style-type: none"> 1. Master Planning. To establish a development strategy which protects the natural runoff attenuation and treatment resources of a catchment yet still providing opportunity for community growth and expansion 2. General Development Restrictions (Static) To establish a set of restrictions protecting and maintaining valued resources which will govern the development process 3. Environmental Site Planning Techniques (active) To develop site planning techniques which minimise site imperviousness

Date	TA - location	Comment on aims and/ or objectives
		<p>4. Erosion and Sediment control To set planning controls which minimise the degree of erosion from construction sites and capture sediments carried in runoff</p> <p>5. Urban Stormwater Management Controls To establish local planning controls which reinforce post development stormwater runoff requirements for individual developments</p> <p>6. Restoration Programmes To establish a council and community based programme of activities works which provide for enhancing stormwater quality control in established areas</p>
1995	Waitakere City Council: Oratia CMP	<p>Overall objective: to develop a practicable plan for long-term flood risk and water quality management. One of the principal aims is to provide guidelines for the management and control of both land use and waterway management which provide the best and most practicable solutions with respect to flooding and water quality problems. Maintaining or improving the water quality within the catchment is an objective.</p> <p>Important that CMP be understood and accepted by local community. By incorporating the public into the plan preparation process, the objectives and ideas of the community have been identified and incorporated into this plan.</p> <p>Three major objectives:</p> <ol style="list-style-type: none"> 1. To manage and control flood impacts by providing information for future planning policies (for example subdivision guidelines and minimum floor levels) and recommendations for protection works where problem areas are identified 2. To, along with other plans, guide development within the catchment so as to ensure that any development is not in conflict with the desired objectives of the area as well as avoiding piecemeal solutions to individual problems (such as flooding) 3. To incorporate into the application by WDC for a comprehensive discharge permit from ARC. This will allow certain discharges within the catchment to be permitted activities
1996	North Shore City Council Duck Creek CMP	<p>Objectives</p> <ul style="list-style-type: none"> • To identify existing flooding conditions and any which may arise from future development, recommend remedial works to alleviate flooding and prepare a strategy to guide development within the catchment • To assess the level of quality improvement necessary to meet the ARC guidelines and to identify mitigation works to achieve that standard

Date	TA - location	Comment on aims and/ or objectives
1999	Rodney D C Puawai Bay	<p>Objective 1 Community Wellbeing</p> <ul style="list-style-type: none"> • The adverse effects of urban stormwater on the community's access to, and enjoyment of, freshwater and marine environments should be avoided, remedied or mitigated. • The adverse effects of urban stormwater on human health, safety and property should avoided, remedied or mitigated • The adverse effects of urban stormwater should be managed in a way which enables communities to provided for their economic wellbeing, and in a way which ensures that the economic wellbeing of the community is not compromised by such effects. <p>Objective 2: Ecosystems The adverse effects of urban stormwater should not compromise the integrity, functioning , resilience and intrinsic value of freshwater and marine ecosystems</p> <p>Objective 3: Land Resources Land resources should be sustainably managed so that the adverse effects of urban stormwater , such as flooding , erosion and land slippage, are avoided, remedied or mitigated</p> <p>Objective 4: Stormwater Assets Management The financial and physical management of stormwater assets should be undertaken in a sustainable manner, and their construction and maintenance should avoid, remedy or mitigate adverse effects on the environment</p>
2000	NSCC Northboro CMP Albany West CMP similar	<p>Objectives</p> <p><i>Flood mitigation:</i> to identify existing flooding conditions and any which may arise from future development, to recommend remedial works to alleviate flooding, and prepare a management strategy to guide development</p> <p><i>Water quality:</i> to determine potential sources of stormwater contamination and to identify works or policies to mitigate or control the effects of that contamination. However, it must be noted that while sediment runoff is a significant water quality issue, especially in developing upper catchments, sediment control is a function of the ARC and is managed through the land use consent process.</p> <p><i>Erosion Control:</i> To make recommendations for protection measures and to examine future risks associated with increased development</p>

Date	TA - location	Comment on aims and/ or objectives
2001	Manukau CC Otara Creek Comprehensive Catchments Study Management Plan options	Objectives: <ul style="list-style-type: none"> • To provide information for the preparation of the CMP to fulfil the objectives and statutory responsibilities of the Manukau city council and ARC in relation to stormwater • To provide information supporting an application for a comprehensive catchment discharge consent

Comment

The plans show an increasing awareness of water quality issues with time. None of the sets of objectives is sufficient for an ICMP, though they provide a good overall checklist of the aims and objectives of the water quantity-focused CMPs of the time. The 1999 Rodney DC Puawai Bay CMP objectives are probably the most comprehensive.

Appendix 4: Logic models, indicators and policy cycles

A logic model summarises key elements of a programme, ideally on one page, in a way that:

- makes it easy to describe a programme to others;
- uncovers different perceptions of the programme, thereby enabling opportunities for stakeholders to discuss a programme and agree on a shared description and purpose;
- highlights links between strategic and operational areas;
- highlights cause and effect relationships;
- makes working assumptions explicit;
- help identify critical questions for evaluation; and
- helps develop programme performance measures.

Other benefits of a logic model for helping with retrospective evaluation as well as to a prospective project plan are to:

- look for gaps or inconsistencies in the planning stage;
- identify other factors that might contribute to outcomes and should therefore be included in monitoring and/or evaluation – and possibly also in activities undertaken by the plan;
- develop criteria, standards and sources of evidence of performance (in terms of activities and outcomes) for monitoring and/or evaluation;
- identify other important outcomes that should be included in monitoring and/or evaluation;
- encourage asking evaluation questions that identify knowledge gaps needing to be addressed;
- provide a consistent framework for reviewing, reporting and planning during implementation of the strategic plan or programme; and
- test the theory of how the strategic plan or programme will work.

(CIRCLE and RMIT University, 2003)

Logic models and programme theory pose some risks and their use is subject to some caveats:

- over-concentration on programme objectives to the exclusion of the processes used to achieve them: a common fault of objectives-based evaluation, it may be balanced by including qualitative components to capture processes that are less amenable to statistical measurement (Owen and Rogers, 1999; Stufflebeam, 2001);

- the hierarchy of objectives provides a theoretical chain of cause and effect, but this is an oversimplification of reality: 'Programme components may be conceptually distinct in the formal version of a theory of action, but in practice these analytically distinct components, links, and stages are highly interdependent and dynamically interrelated' (Patton, 1986:164) both with each other and with the 'real world' outside of the programme (Cook, 2000). This can affect outcomes in often unpredictable ways that cannot easily be evaluated, so the best we can hope for is to prove 'beyond reasonable doubt' the causal links between the programme and its intended outcomes (Davidson, 2000); and
- the greatest barrier to uptake is the perception amongst programme staff that they are too busy implementing the programmes to have the time, money, or inclination to properly evaluate them (Vowless, 2002). The OBI process and current trends in evaluating policy effectiveness make it clear that 'programme managers cannot afford *not* to evaluate' (ibid). However, to mitigate legitimate concerns about over-emphasis on evaluation, a general rule of thumb appears to be that 5-10% of programme time is appropriate for good evaluation (Paine, 1999).

Local and international research was carried out to help identify appropriate indicators or categories of indicators that can indicate success in ARC and TA ICMP activities, taking account of key stakeholder perspectives and multiple bottom lines.

Table 16, a brief history of the development of indicators, shows the emergence of sustainable development indicators, reflecting growing awareness and concern about the effects of development on the environment and how this relates to social and economic trends. International, national, regional and local undertakings and obligations require monitoring of a wide range of indicators, including state of the environment, quality of life and sustainable development. However, with increasing interest in the cost- and environmental- effectiveness of policy and management interventions, more recent work is now focusing on evaluating their effectiveness.

Table 16 History of indicator development

Source: Adapted from Hodge 1997 and Innes 1990 (in Schlossberg and Zimmerman, 2003)

Initial work done during	Categories of indicators
1920s–1930s	Social indicators
1940s–1950s	Economic indicators
1960s	Quality of life indicators
1970s	Health information system indicators
1970s	Environmental indicators
1980s	Healthy communities indicators
Early 1990s	Sustainability (including decoupling and composite) indicators, life cycle / systems / ecofootprint / urban metabolic analysis
Late 1990s	Indicators incorporated into assessment tools for the design, approval and monitoring of development
2000s	Indicators of policy effectiveness

Governance and key performance indicators (e.g. Hooper, 2006)

The GEO-2000 (global environmental outlook) programme of the United Nations Environment Programme (UNEP) identified that a 'serious omission is the lack of effort to find out whether new environmental policies and expenditures have the desired results. These knowledge gaps act as a collective blindfold that hides both the road to environmental sustainability and the direction in which we are travelling.' UNEP acknowledged that an 'element of uncertainty is associated with most environmental policy measures. Yet indicators of policy effectiveness and underlying observing mechanisms are lacking everywhere, from local level initiatives to multilateral agreements. These deficiencies prevent the monitoring and assessment of policy performance.' This, together with other data deficiencies, ... 'prevents comparisons being made between the current situation and what would have happened if no agreement had been concluded. ... Routine assessment of the performance of environmental policies ... is therefore urgently needed to fill this gap in the policy process.' (UNEP, GEO 2000). One of its suggestions for action for filling this knowledge gap was to 'implement policy performance monitoring by identifying suitable indicators, developing capacities to handle statistical and geographical data, and ensuring that assessment results are easily accessible to policy makers and the general public.' The SWAT's desire to evaluate its workstream strategy is therefore in line with the international and local interest in indicators of policy effectiveness.

Research by the University of Waikato-based research team, Planning Under a Co-operative mandate (PUCM – see Ericksen et al under References), shows that policy effectiveness reflects:

- the quality of the plans and programmes prepared (plan quality, or PQ)'
- the quality of their implementation (implementation quality, or IQ); and
- the environmental quality (EQ) that results from both of the above.

In line with the multiple bottom lines in both the RMA and the LGA, we suggest "OQ", or outcome quality, instead of EQ. This is also in line with the observation of the Organisation for Economic Development (OECD) that the 'successful integration of environmental policies with sectoral and other economic policies is vital to ensuring that environmental policy goals are reached at least cost and that the effects of other policy measures on the environment are addressed.' (OECD, 2004).

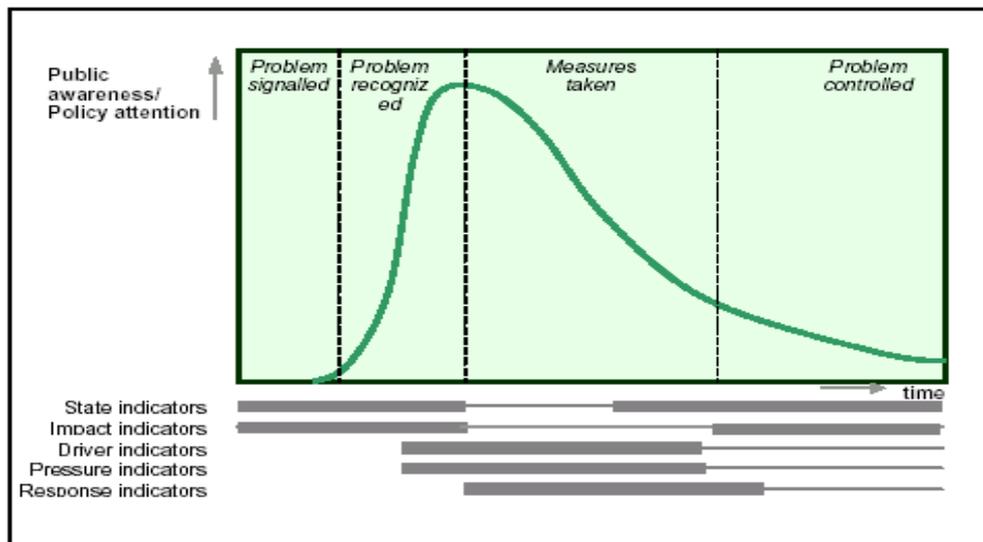
The European Environment Agency (EEA), has developed an extended version of the OECD's pressure-state-response framework, the DPSIR framework (driving forces – pressures – state – impact – responses), that offers a basis for analysing the complex inter-related factors that impact on the environment and to assess the effectiveness of policy responses. These indicators are used in sequence at different stages in the policy life cycle shown in Figure 11, and comprise for example, (Smeets and Weterings, 1999; Gabrielson and Bosch, 2003):

- descriptive indicators such as zinc content in shellfish;

- performance indicators such as descriptive indicators linked to target values;
- efficiency (or decoupling) indicators such as CO₂ emissions per unit of GDP;
- policy effectiveness indicators that reflect the actual change in environmental variables related to policy efforts; and
- total welfare indicators that attempt to answer the question, “are we better off?”

Figure 11 DPSIR indicator use in the policy life cycle

Source: Gabrielson and Bosch, 2003



Policy cycles may be linked with the orders of outcomes model (Olsen, 2003; UNEP, 2006).

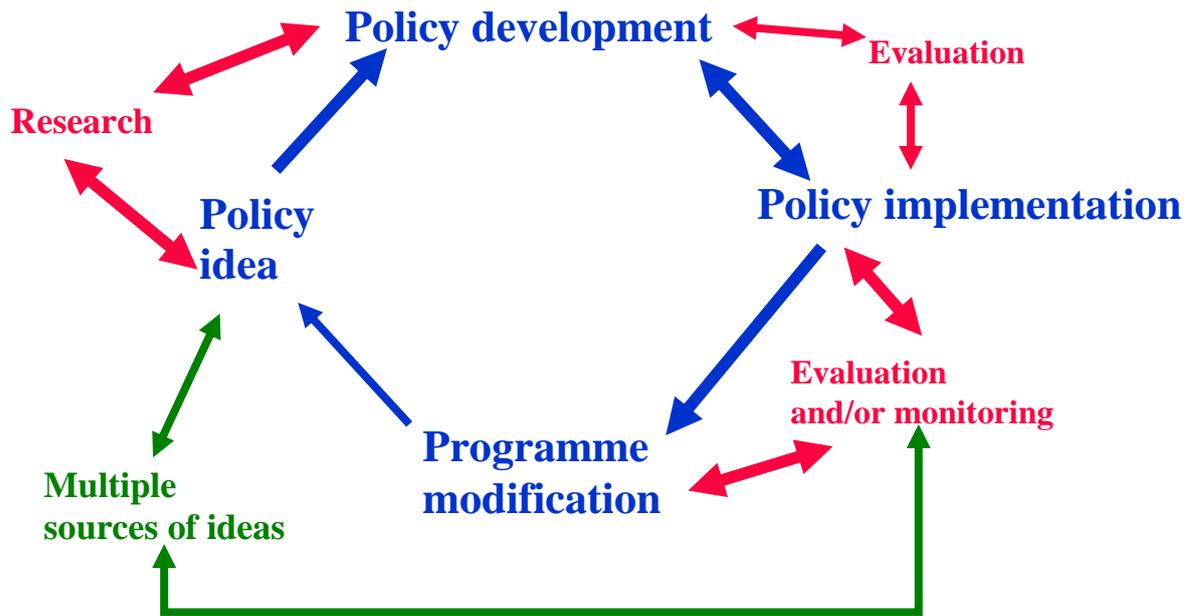
First and second order outcomes may be defined as policy response indicators, while third order outcomes may be defined as state and impact indicators in the DPSIR cycle. The fourth order outcome may be seen as the vision – currently missing from the DPSIR cycle (Mark Bishop, pers. comm., 2007) – that informs the identification of drivers and pressures as well as the policy response and indicators.

Some other perspectives on the policy cycle are summarised below.

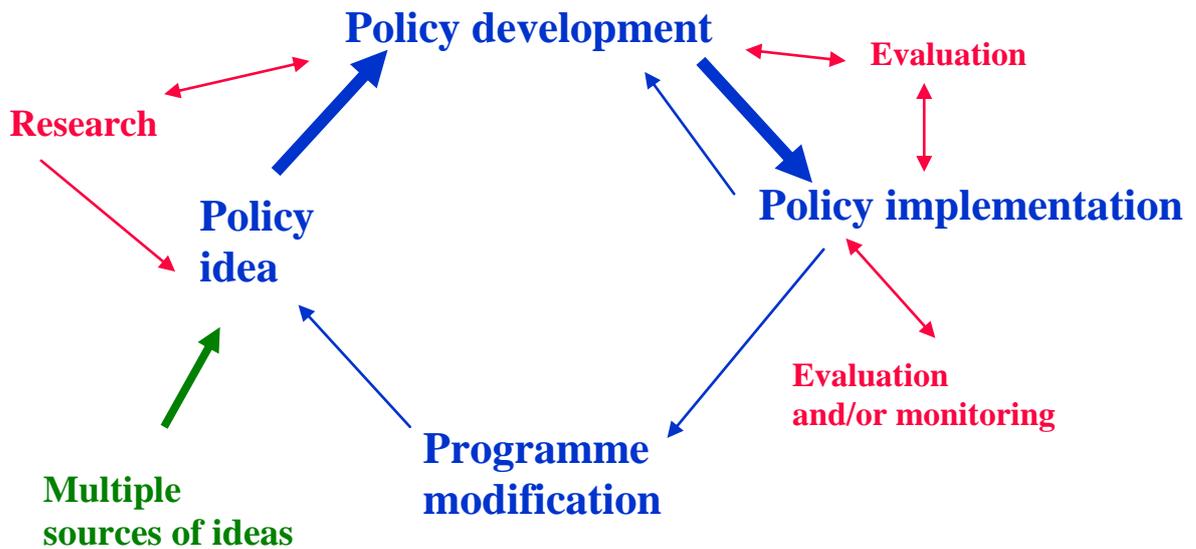
Figure 12 Theoretical vs real policy cycles

Source: Social Policy Evaluation and Research Committee (SPEaR), 2005

The policy cycle ideal



The policy cycle in practice



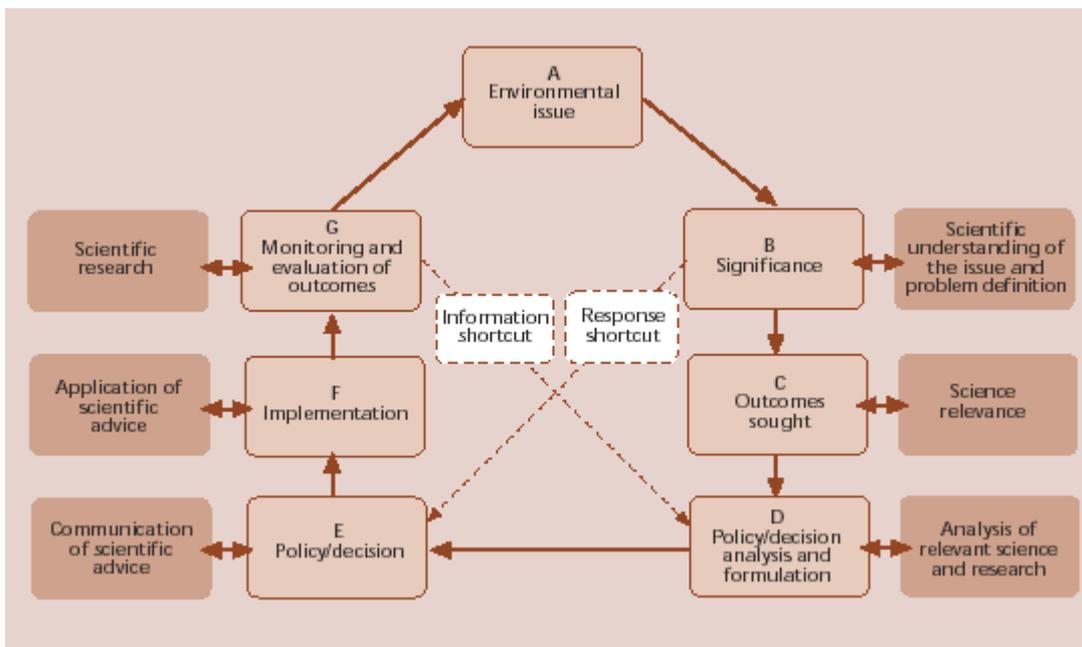
The Parliamentary Commissioner for the Environment’s 2004 report, Missing links: connecting science with environmental policy noted the complexity of the research and decision-making processes facing researchers, policy-makers and communities. Appendix A to the report used the diagram in Figure 13 to show the various roles that science and research can play in the policy cycle.

It was noted that science funding, capacity, capability, structure and relationships influence how these roles play out and that uptake of scientific advice depends on correct problem identification and question framing, as well as communication and trust between scientists and policy makers, time pressures and understanding the capabilities and limitations of science.

It was also noted that the cycle can be regarded as a learning process in which use is made of feedback systems [evaluation] to continually strive towards improving environmental policy-making and environmental outcomes.

Figure 13 Programme evaluation in the policy process

Source: Parliamentary Commissioner for the Environment, 2004



Appendix 5: Assessment criteria for evaluation questions

Table 10 in Section 5 shows an indicative scale for making qualitative assessments of the answers to each question in order to enable the results to be shown in simple bar or pie charts. An Excel-type format that allows comments to be included beside each one will enable the capture of key information explaining the results, for example by alluding to capacity in the ARC or TAs, or to synergistic or confounding factors.

Below is a series of detailed tables suggesting how each of the evaluation questions in Table 9 could be answered.

Assessing enabling conditions

It is recommended that the following evaluation tasks will be done yearly starting in August (at the start of budget preparation process) by the SWAT with other internal ARC stakeholders.

Evaluation question:	Task 1.1 Are the inputs of people, funding and other resources sufficient and timely, for the whole ICMP activity?		
Indicator (and benchmark or target if relevant)	Data source/method		
ARC SWAT funding in annual plans and budgets, LTCCP ARH funding ARC SWAT staff time (FTE) Team FTEs and budgets	HR, budget Information from policy/planning and environmental research (FTE/hours/days) Feedback from consents/compliance (how well ICMPs support applications)		
Description	Achievement score	Rank	Comments
Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	
Evaluation	Task 1.2 Are the inputs of people, funding and other resources sufficient and timely, for the good plans		

question:	activity?		
Description	Achievement score	Rank	Comments
Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	
Evaluation question:	Task 1.3 Are the inputs of people, funding and other resources sufficient and timely, for the plan funding activity?		
Description	Achievement score	Rank	Comments
Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	
Evaluation question:	Task 1.4 Are the inputs of people, funding and other resources sufficient and timely, for the relationships, awareness, linkages and alignment activity?		
Description	Achievement score	Rank	Comments
Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	
Links to workstream objective (1-5) & Ls ne-fe		(1)-(5); fe, ie	

Evaluation question:	Task 2. Have significant changes in policy requirements and programme activity response been documented and appropriate action taken?		
Indicator (and benchmark or target if relevant)	Data source/method		
Production of new TPs, research papers, strategies, plans, policies, processes, legislation or standards	Document analysis Feedback from stakeholders		
Description	Achievement score	Rank	Comments
Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	
Links to workstream objective (1-5) & Ls ne-fe	(1)-(5); fe, ie		

Evaluation question:	Task 3. Have all stakeholders been identified and engaged with? Are there supportive constituencies?		
Indicator (and benchmark or target if relevant)	Data source/method		
Stakeholder analyses documented Numbers of TAs the team works well with and doesn't work well with Quality of internal relationships Reasons for all the above	SWAT internal review		
Description	Achievement score	Rank	Comments
Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	
Links to workstream objective (1-5) & Ls ne-fe	(2) (5); fe, ie		

Evaluation question:	Task4. How is information/research being shared amongst local stakeholders?		
Indicator (and benchmark or target if relevant)	Data source/method		
Networks, forums set up/attendance	Records of meetings, feedback from all forums		
Description	Achievement score	Rank	Comments
Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	
Links to workstream objective (1-5) & Ls ne-fe	(1) (2) (5); fe, ie		

Evaluation question:	Task 6. How many technical tools were developed and how many ICMPs used them? What other technical tools are needed?		
Indicator (and benchmark or target if relevant)	Data source/method		
List of tools + uptake and feedback from consultants & councils using them Participatory gap analysis by all stakeholders of other tools needed	Records, evidence in ICMPs, network consent applications and supporting material Gap analysis findings		
Description	Achievement score	Rank	Comments
Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	
Links to workstream objective (1-5) & Ls ne-fe	(1) (2) (4) (5); ie		

Evaluation question:	Task 7. Is there commitment to developing common frameworks and indicators to collect data for monitoring state of the environment and other MBL outcomes in strategic objectives and ICMPs?		
Indicator (and benchmark or target if relevant)	Data source/method		
Meetings held, commitment obtained	Records		
Description	Achievement score	Rank	Comments
Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	
Links to workstream objective (1-5) & Ls ne-fe	(2) (4) (5); ie, fe		

Evaluation question:	Task 11. Are funding eligibility guidelines updated and followed?		
Indicator (and benchmark or target if relevant)	Data source/method		
Funding eligibility guidelines Number of claims processed/unprocessed	Records		
Description	Achievement score	Rank	Comments
Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	
Links to workstream objective (1-5) & Ls ne-fe	(3); fe, ie		

Evaluation question:	Task 12. How helpful do TAs find the ARC funding? To what extent has ARC funding to date resulted in better stormwater outcomes or the potential for this?		
Indicator (and benchmark or target if relevant)	Data source/method		
Qualitative survey of stakeholders: what would have been achieved without funding c.f. with it, as indicated by MBL outcomes?	Stakeholder survey Policy effectiveness analysis Plan assessment process		
Description	Achievement score	Rank	Comments
Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	
Links to workstream objective (1-5) & Ls ne-fe	All; all		

Evaluation question:	Task 13. How many ICMPs are in place and how up-to-date are they? Are there ICMP plans in place to cover all catchments and receiving environments in the Auckland region?		
Indicator (and benchmark or target if relevant)	Data source/method		
Number of ICMPs overall Number of ICMPs in priority catchments Numbers of plans:catchments Number of 3-6 year work programmes prepared and implemented	Records Gap analysis		
Description	Achievement score	Rank	Comments
Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	
Links to workstream objective (1-5) & Ls ne-fe	(2) (4); fe, ie		

Evaluation question:	Task 14. Have we developed and delivered strategies to improve information sharing and awareness-raising with internal and external stakeholders on the value of MBL ICMPs?		
Indicator (and benchmark or target if relevant)	Data source/method		
No. of strategies developed No. and groups of people aimed at (reach) Measures of positive feedback / No. of comments No. of meetings / seminars etc	Records of strategies, meetings or presentations, sorted by TA and target audience (e.g. councillors, community boards, senior managers, multi-disciplinary / inter-departmental)		
Description	Achievement score	Rank	Comments
Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	

Links to workstream objective (1-5) & Ls ne-fe		(1) (2); ie	
Evaluation question:	Task 15. How well-aligned are internal ARC stakeholders and their departments on the scope and purpose of ICMPs as used by ARC policy, planning, research, consents and compliance staff as well as by the same parties in the consent applicants' organisations?		
Indicator (and benchmark or target if relevant)		Data source/method	
Views of the respective internal and external stakeholders of, for example, ease of production and alignment of policy, plans, technical publications, consent conditions and compliance regimes and outcome monitoring, and the reasons for key areas of agreement and disagreement			
Description	Achievement score	Rank	Comments
Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	
Links to workstream objective (1-5) & Ls ne-fe		(1) (2) (5); ie	

Assessing plan quality

The following evaluation tasks will be done as required by timing of receipt of ICMPs and other relevant factors starting with an independent review in the second half of the 2007/08 financial year, then as required.

Evaluation question:	Task 8. How good are the ICMPs being produced? Is there good agreement on what a good plan is? Is an agreed plan assessment process in place? What are the trends in plan quality over time? Where can they be improved? How can we facilitate this improvement? How are stakeholders taking part in and responding to this process? <i>NB: Resource 1 in Part C will generate more detailed answers to these questions.</i>		
Indicator (and benchmark or target if relevant)	Data source/method		
Plan assessment process developed Internal plan logic (PUCM criteria) Scope of contents (ARC guideline) Depth of coverage of contents (benchmarked vs best practice e.g.s) Stakeholder engagement in plan quality Results of plan assessment process	Analysis of and benchmark against the 51 CMPs analysed (Part C Resources) Results of Plan assessment process (Part C Resources)		
Description	Achievement score	Rank	Comments
Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	
Links to workstream objective (1-5) & Ls ne-fe	(1) (2); ie, fe		

Evaluation question:	Task 9. Do ICMPs support network consent applications well?		
Indicator (and benchmark or target if relevant)	Data source/method		
Number of network consents issued in catchment with and without ICMPs	Records Interviews with consenting staff		
Description	Achievement score	Rank	Comments

Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	
Links to workstream objective (1-5) & Ls ne-fe		(4); ie	

Evaluation question:	Task 10. Are plans being implemented as envisaged?		
Indicator (and benchmark or target if relevant)	Data source/method		
Do ICMPs describe how to monitor and document plan implementation and are the systems being followed? Is appropriate infrastructure being built? E.g. catchment management asset inventories of green & grey engineering designs/structures	TA reporting on implementation programme for each ICMP		
Description	Achievement score	Rank	Comments
Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	
Links to workstream objective (1-5) & Ls ne-fe	(1) (5); ie		

Linkages and outcomes

The following evaluation tasks will be done every two years starting in March, being initiated with an independent review in the second half of the 2007/08 financial year. task 18 would be done every three or four years when the Auckland Regional Council and/or TAs conduct public awareness surveys.

Evaluation question:	Task 5. What observable improvements occur that can be attributed to preparation and implementation of ICMPs? For example; improved links to land use planning processes; stormwater quantity and quality; receiving environment quality; freshwater and marine ecology; associated terrestrial ecological values; other bottom lines (e.g. social, cultural, financial, etc)?		
Indicator (and benchmark or target if relevant)		Data source/method	
All-stakeholder views on smoothness of planning processes and integration State of the environment, quality of life and other regular surveys Consent monitoring data where relevant		ICMP implementation monitoring Network and other discharge consent compliance monitoring State of the environment monitoring and/or proxy indicators All stakeholders	
Description	Achievement score	Rank	Comments
Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	
Links to workstream objective (1-5) & Ls ne-fe		All ; (1)-(5)	

Evaluation question:	Task 16. What is the quality of the relationship with each internal ARC and external TA or other stakeholder and how strong or weak is it? With whom do we have good communication and partnerships? What are the reasons for the findings?		
Indicator (and benchmark or target if relevant)		Data source/method	
Relationship satisfaction surveys in ARC and of TAs/other stakeholders		Personal ratings, interviews, numbers of meetings, invitations to meetings, efficient processes	
Description	Achievement score	Rank	Comments
Highly valued/friendly/open/trusting	Over 100%	5	
Moderately valued/friendly/open/trusting	90-100%	4	
Valued/friendly/open, trusting	50-90%	3	
Somewhat	25-50%	2	

valued/friendly/open/trusting			
Not valued/friendly/open/trusting	below 25%	1	
Links to workstream objective (1-5) & Ls ne-fe		(2) (5); ie	

Evaluation question:	Task 17. Are the links to land use (district and structure plans and other strategies) and asset planning processes improving?		
Indicator (and benchmark or target if relevant)	Data source/method		
How well integrated ICMPs, structure, district, asset management and other plans are	Feedback from internal and external preparers and users of these documents		
Description	Achievement score	Rank	Comments
Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	
Links to workstream objective (1-5) & Ls ne-fe		(1) (2) (5) ; ie	

Evaluation question:	Task 18. Is there greater public awareness of ICMPs?		
Indicator (and benchmark or target if relevant)		Data source/method	
Public involvement Public awareness surveys		Participation in resource care initiatives, submissions on LTCCPs and other processes	
Description	Achievement score	Rank	Comments
Exceeded expectations	Over 100%	5	
Fully met	90-100%	4	
Mostly met	50-90%	3	
Mostly unmet	25-50%	2	
Not met	below 25%	1	
Links to workstream objective (1-5) & Ls ne-fe		(1); se	

Appendix 6: A draft process for assessing ICMPs

A key deliverable of the ICMP evaluation project is a process for assessing ICMPs, a major step towards building the capacity of the region's wider catchment management industry. This Resource sets out a draft assessment process, which we recommend is introduced in two stages. In the first, draft assessment process would be initiated by way of an expert peer review, and in the second, it would be further developed and trialled with regional stakeholders and appropriate experts within and beyond the ARC as an ongoing way of collaborative learning and team and capacity-building.

Recommendations are made about how to further develop the assessment process, with the aim of ensuring that stakeholders understand the benefits of assessing plan quality, and that the process is sufficiently collaborative, robust and transparent to gain traction in the Region's wider industry as a team and capacity-building measure.

We recommend that the ARC work with key stakeholders and acknowledged leaders in the field of plan quality to:

- prepare an assessment process, including:
 - defining a good ICMP, in terms of scope, depth and internal logic, in order to set a benchmark against which full and rapid ICMPs can be assessed;
 - defining key quantitative and qualitative metrics of plan quality for full and rapid assessment ICMPs (defined below);
- introduce the assessment process and its objectives and support its ongoing development and application, including:
 - forming an assessment team;
 - refining and piloting the process and staging its implementation; and
 - setting up ongoing professional development forums and support.

Preparing a draft assessment process

Defining a good ICMP

We suggest that the defining criteria of a good ICMP encompass:

- its internal logic and consistency;
- what a good ICMP should contain (scope); and
- the quality of the information provided (depth).

The process for assessing plans also needs to be responsive to the needs of TAs facing intense pressures of growth, which often do not give them much time to fully research all possible issues to address the full scope an ICMP should cover. The ARC has been flexible in responding to such needs in the past, and so the assessment process needs to accommodate the scope of full ICMPs as well as the more focused scope of the rapid catchment assessments sometimes needed to accommodate pressing growth needs.

Our suggested criteria for a good ICMP are set out in Table 1, and draw upon:

- the findings of the PUCM group, which has conducted long term research into the quality of regional policy statements, district plans and long term council community plans (LTCCPs) and their implementation under the Resource Management and Local Government Acts (Ericksen et al, 2003), for scope and logic;
- the provisions of the ARC's Proposed Air, Land and Water Plan (ALW), together with the suggested table of contents for an ICMP, for scope; and
- the guidance and tools provided by the ARC together with a joint ARC and industry assessment of best practice examples, for depth.

A useful benchmark is provided by Appendix 3, a review of 51 CMPs produced in the 1990s before preparation of the ICMP Funding Eligibility Guideline (ARC, 2005).

The suggested criteria for a good ICMP are summarised in Table 17 (these do not necessarily reflect the order in which things are done during the plan preparation process):

1. appropriate interpretation of the legal mandate for the local area;
2. clearly stated purpose and outcomes;
3. Clear identification of issues;
4. well-developed fact base;
5. internal logic and consistency (objectives clearly linked to issues; policies to objectives; methods to policies; anticipated results and indicators to all the above);
6. integration with other plans and policy instruments;
7. monitoring;
8. well-organised and presented for ease of use by lay and professional alike;
9. scope as set out in the relevant documents of the ARC; and
10. depth of coverage of key contents of the plan.

Defining key metrics of good plans

For each of the criteria in Table 1, key quantitative and qualitative metrics of good plans need to be defined in order to set a benchmark against which ICMPs can be assessed. These metrics need to be suitable for use on both full and rapid assessment ICMPs.

As the PUCM group has already developed a methodology for assessing plans against criteria 1-8, it might be useful that:

- the PUCM group be approached to help form an assessment team (refer 12.2.1);
- the PUCM plan quality assessment process be adapted as necessary to accommodate the ARC ICMP requirements;
- the scope of a full ICMP be based on the topics listed in:
 - the Proposed Auckland Regional Plan: Air, Land and Water (the ALW plan);
 - the table of contents in the ICMP Funding Eligibility Guideline (ARC, 2006);
 - additional topics being canvassed in a new ICMP Preparation Guideline;
- the scope and preparation of a rapid assessment ICMP should:
 - enable enough key research to be done to accommodate growth without compromising key values or foreclosing on important needs and opportunities ;
 - be closely linked to the structure planning process; and
 - facilitate the more detailed work to be done later to meet the requirements of a full ICMP;
- a joint ARC and industry assessment be carried out to initiate and build up a compilation of agreed best practice examples to illustrate the desired depth of coverage of various issues in the ICMP and inform the plan assessment process for the last criterion in Table 17.

Table 17 Suggested criteria for a good ICMP

Note: Criteria marked # are drawn from Ericksen et al, 2003, where they are outlined in more detail.

1. Appropriate interpretation of the legal mandate for the local area #	
PUCM comments	Other comments for ICMPs
Sustainable management must be specifically interpreted for the local area, especially RMA sections 5-8, 32, 35, 30, 31 and the relevant sustainable development sections of the LGA .	ICMPs should also address the relevant strategic objectives of the documents summarised in Appendix 2 (Stewart, 2007). See also criteria 6 and 9 below (Integration and Scope).
2. Clearly stated purpose and outcomes #	
PUCM comments	Other comments for ICMPs
Clarity of purpose is gained by clearly articulating the environmental, social, cultural and economic outcomes a plan is attempting to achieve, articulating community a goal or vision that guides development of objectives,	Teams preparing ICMPs may usefully reference methodologies prepared for the ARC, including measurable MBL objectives (TR2009/077 and TR2009/078), incorporating the orders of outcomes

policies and implementation; and defining desired environmental outcomes that are measurable and link to specific indicators.	(UNEP/GPA, 2006). More valuable information is available from Beanland and Huser (1999) and the Quality Planning website www.qualityplanning.org.nz/ .
3. Clear identification of issues based on environmental and other effects #	
PUCM comments	Other comments for ICMPs
Issues need to be identified in relation to significant environmental effects, by clear problem statements identified through consultation, research and analysis. Should also include gap analysis, priority-setting, grouping of issues and clear identification of issues by type (e.g. national, treaty, coastal etc).	Technical issues have traditionally been very well identified in ICMPs. Best practice as identified by the PUCM team will enable these issues to be framed in such a way as to meet the criteria for a good plan.
4. Well-developed fact base #	
PUCM comments	Other comments for ICMPs
A good plan has a well-developed fact base that informs issue identification and development of objectives. Best practice includes maps and diagrams, presenting facts in useful units, citing sources of facts and methods for their collection, benefits/cost analysis and recognising information gaps.	The ARC and TAs in the Region have developed a number of best practice tools that can be used to identify and characterise issues. Either these or an acceptable alternative should be used.
5. Internal logic and consistency #	
PUCM comments	Other comments for ICMPs
In a good plan, issues, objectives, policies, methods, anticipated results/outcomes and indicators are consistent and reinforcing. This means that objectives must be clearly linked to issues, policies to objectives, methods to policies, anticipated results to objectives and indicators to anticipated results.	Strong internal consistency puts councils in a good position to monitor plan effectiveness (implementation quality and outcome quality). Measurable MBL objectives (see 2 above) and training by the PUCM team can promote good internal logic and consistency of ICMPs.
6. Integration with other plans and policy instruments #	
PUCM comments	Other comments for ICMPs
Key actions of other internal and external plans and policy instruments are integrated with the plan by clearly explaining their relationship to ensure co-ordinated and consistent resource management; explaining cross-boundary issues and integration; avoiding duplication of policy instruments e.g. ARC/TA; adding value to other policy instruments e.g. iwi, biodiversity, transport strategies, to meet similar goals	ICMPs should address the relevant strategic objectives of the documents summarised in Appendix 2 (Stewart, 2007). TAs need to carry out a similar census of their own internal documents and strategies to identify further strategic objectives their ICMPs must meet. ICMP preparation teams need the right mix of skills and a good process for drawing on the many different areas of expertise that are needed for a good plan.
7. Monitoring #	
PUCM comments	Other comments for ICMPs
Monitoring provisions and responsibilities need to be included in plans so councils can assess progress towards sustainability. This involves: <ul style="list-style-type: none"> referring to a monitoring strategy or framework for environmental monitoring including provisions for monitoring the performance of the plan integrating with other organisations with monitoring or information provision responsibilities. 	Valuable information is available from Beanland and Huser (1999) and the Quality Planning website www.qualityplanning.org.nz/ . Co-ordinated monitoring by the ARC and TAs of outcomes under both the RMA and LGA needs to be considered. This includes state of the environment, consent and compliance and policy effectiveness monitoring.
8. Well-organised and presented for ease of use by lay and professional alike #	

PUCM comments	Other comments for ICMPs
Several mechanisms are suggested to make a plan readable, comprehensible and easy to use, including detailed tables of contents, user guides, glossaries, cross-referencing issues, objectives, methods, outcomes and indicators to each other, using clear maps, and tables and illustrations with useful spatial information where relevant.	ICMPs are very comprehensive documents that may reference large numbers of separate reports. A user guide and detailed list of all relevant supporting resources and their location is very useful for people updating the plan in the future.
9. Scope as set out in the relevant documents of the Auckland Regional Council	
Full ICMPs	Rapid assessment ICMPs
In order to qualify for funding of their preparation, full ICMPs need to cover the topics listed in: <ul style="list-style-type: none"> the Proposed Auckland Regional Plan: Air, Land and Water (the ALW plan) the suggested table of contents for an ICMP in the ICMP Funding Eligibility Guideline (ARC, 2006) additional topics could be canvassed in a new ICMP Preparation Guideline Coverage of other topics is optional.	The scope and preparation of a rapid assessment ICMP must: <ul style="list-style-type: none"> enable enough key ICMP research to be done to ensure growth can be accommodated without compromising key catchment issues or foreclosing on important needs and opportunities be closely linked to the structure planning process facilitate the more detailed work to be done later to meet the requirements of a full ICMP.
10. Depth of coverage of key contents of the plan	
While the ICMP community is rapidly progressing the quality of the information provided in ICMPs, the quality of coverage of different topics will typically vary within any single ICMP, reflecting the strengths of the preparation team. A compilation of agreed best practice examples could usefully illustrate the desired depth of coverage of various issues in the ICMP scope. (Note here that not all catchments manifest all problems to the same degree, so not all will need to be investigated and addressed to the same extent. A good plan will justify such variations in depth of coverage.) It is recommended that a joint ARC and industry assessment of best practice be carried out to initiate and build up such a compilation.	

Introducing and supporting the two-step process

Introducing the assessment process and its objectives

While the ARC has an explicit aim to ensure all ICMPs are prepared to a recognised level of best practice, it also acknowledges the importance of gaining the endorsement of TAs and involving them in the process. Collaboration with the TAs and their service providers will enable useful contributions and much valuable learning across the wider ICMP industry in the Region.

In order to encourage their active participation, we therefore recommend that the PUCM group be approached to help the SWAT prepare a presentation to the Stormwater Liaison Group.

First stage assessment

The current round of ICMPs are supporting network discharge consent applications, posing difficulties for a separate collaboration on plan quality between applicant and consenting agency. However with more plans being prepared and scheduled for

preparation, there is nevertheless an urgent need for the assessment process to get under way. A first stage comprising a review by independent experts is therefore recommended. Expertise is needed in plan logic and consistency as well as in the scope and depth of the information provided.

A small number of independent experts with relevant expertise needs to be identified and a brief prepared for the work and the support to be provided by the SWAT.

Second stage assessment

In the second stage, the draft assessment process would be further developed and trialled with regional stakeholders and appropriate experts within and beyond the ARC as an ongoing way of collaborative learning and team and capacity-building.

Forming an assessment team

Preparing good ICMPs requires a range of expertise not always found within any one organisation. We therefore recommend setting up an assessment team from which people with the relevant skills can be drawn to further develop this draft assessment process and form a pool of people from among whom teams of assessors can be drawn. This pool needs to contain enough people to cover the required range of skills and avoid conflicts of interest.

- Our preliminary suggestions for team members are that:
- they be drawn from the planning and engineering staff of the ARC and TAs, as well as other expert organisations including consultants experienced in ICMP preparation;
- they are people who actively want to develop their own ICMP expertise and that of others;
- the PUCM group be approached to join the assessment team (refer 12.2.1);
- a list of core ICMP competencies be developed;
- ARC and TA stakeholders be asked to contribute names of people with the appropriate expertise in those competencies; and
- a request for proposal be drawn up to help select potential team members and define the key roles they will play, which will include:
 - further developing this draft assessment process;
 - piloting it and refining it for ongoing use;
 - assessing the quality of ICMPs
 - identifying areas where improvements are needed and ways to build the necessary capacity;
 - improving the plan assessment process; and

- making recommendations about ongoing professional development, networking and capacity-building forums and other forms of ongoing support to promote high quality ICMPs.

Refining and piloting the process and staging its implementation

The first task of the assessment team will be to further develop this draft assessment process. As part of this process we recommend that regular updates be given to the TAs and their consultants and feedback sought, and that volunteers be sought to pilot the assessment process by way of a participatory workshop.

It may also prove useful to stage the implementation of the process to further refine it and ensure that key areas of ICMPs needing improvement can be addressed and resources allocated appropriately to do this.

Setting up ongoing professional development forums and support

The ARC SWAT may need to extend the work done in its plan quality activity to provide ongoing support for the work of the assessment team. This support is likely to include staff time, funding, opportunities for networking and information exchange and access to resources including expert personnel.

Ongoing tasks of the assessment team will include:

- assessing the quality of ICMPs
- identifying areas where improvements are needed and ways to build the necessary capacity;
- improving the plan assessment process; and
- making recommendations about ongoing professional development, networking and capacity-building forums and other forms of ongoing support to promote high quality ICMPs.

In line with similar moves throughout New Zealand for other plans under the RMA and LGA, it is likely that ongoing professional development and support will be needed not only to improve the quality of ICMPs but also to focus on the quality of their implementation and the cost-effective monitoring of the environmental outcomes they and the documents they influence are intended to achieve. The PUCM group's research "indicates that the quality of plan implementation may be less influenced by the quality of plans than by socio-economic and organisational factors. It is, however, still important to continue improving plans and their implementation because, among other things, plans set out a consensus of community values about the environment. Further, the process of plan development helps to clarify goals and build commitment to those goals. Perhaps the most important observation is that, in the short term, building council capacity and commitment, rather than focusing on plan quality, may be more likely to lead to better environmental outcomes" (Bachurst et al, 2002). These matters should

thus also be addressed in the plan quality and relationship-building activities of the ICMP workstream strategy.

Appendix 7: Applying the Bellagio and other sustainability principles to the evaluation process

Source: Trotman, R. 2005

About the Bellagio principles

The Bellagio principles were developed in 1996 in Italy's Bellagio, by an international panel of measurement practitioners and researchers. They contain the synthesis of insights from practical ongoing evaluation efforts and were developed in response to the need for improved ways of assessing sustainable development (Devuyt 2000 p69, in Trotman, 2005). The principles are:

1. Define sustainable development for each project.
2. Be holistic.
3. Consider essential elements.
4. Have an adequate scope.
5. Be practical.
6. Be open.
7. Communicate effectively.
8. Be participatory.
9. Undertake ongoing, reflexive assessment.
10. Ensure you have (and develop) the capacity to evaluate.

What is their use and who are the users?

These principles serve as guidelines for the whole of the assessment process including the choice and design of indicators, their interpretation and communication of the result. They are interrelated and should be applied as a complete set. They are intended for use in starting and improving assessment activities of community groups, non-government organizations, corporations, national governments, and international institutions.

Overview

These principles deal with four aspects of assessing progress toward sustainable development. Principle 1 deals with the starting point of any assessment - establishing a

vision of sustainable development and clear goals that provide a practical definition of that vision in terms that are meaningful for the decision-making unit in question. Principles 2 through 5 deal with the content of any assessment and the need to merge a sense of the overall system with a practical focus on current priority issues. Principles 6 through 8 deal with key issues of the process of assessment, while Principles 9 and 10 deal with the necessity for establishing a continuing capacity for assessment.

Other helpful principles

Other useful principles that can inform the ICMP wrokstream strategy include:

- the Melbourne Principles for Sustainable Cities, available from http://www.iclei.org/fileadmin/user_upload/documents/ANZ/WhatWeDo/TBL/Melbourne_Principles.pdf (accessed November 2007)
- the ecosystem approach principles in Annex 4 of the 2006 UNEP/GPA report
- the concepts on integrated coastal area and river basin management (ICARM) in Annex 5 of the above.

Table 18 Applying the Bellagio Principles to evaluating the ICMP workstream strategy

Source: Based on Trotman and Wood, 2006, and

http://www.iisd.org/measure/principles/progress/bellagio_full.asp (accessed November 2007)

Principle	Application to evaluating the ICMP workstream
<p>1. Guiding vision and goals</p> <p>Assessment of progress toward sustainable development should be guided by a clear vision of sustainable development and goals that define that vision</p>	
<p>2. Holistic perspective</p> <p>Assessment of progress toward sustainable development should:</p> <ul style="list-style-type: none"> • include review of the whole system as well as its parts • consider the well-being of social, ecological, and economic sub-systems, their state as well as the direction and rate of change of that state, of their component parts, and the interaction between parts • consider both positive and negative consequences of human activity, in a way that reflects the costs and benefits for human and ecological systems, in monetary and non-monetary terms 	
<p>3. Essential elements</p> <p>Assessment of progress toward sustainable development should:</p> <ul style="list-style-type: none"> • consider equity and disparity within the current population and between present and future generations, dealing with such concerns as resource use, over-consumption and poverty, human rights, and access to services, as appropriate • consider the ecological conditions on which life depends • consider economic development and other, non-market activities that 	

Principle	Application to evaluating the ICMP workstream
<p>contribute to human/social well-being</p>	
<p>4. Adequate scope</p> <p>Assessment of progress toward sustainable development should:</p> <ul style="list-style-type: none"> • adopt a time horizon long enough to capture both human and ecosystem time scales thus responding to needs of future generations as well as those current to short term decision-making • define the space of study large enough to include not only local but also long distance impacts on people and ecosystems • build on historic and current conditions to anticipate future conditions - where we want to go, where we could go 	
<p>5. Practical focus</p> <p>Assessment of progress toward sustainable development should be based on:</p> <ul style="list-style-type: none"> • an explicit set of categories or an organizing framework that links vision and goals to indicators and assessment criteria • a limited number of key issues for analysis • a limited number of indicators or indicator combinations to provide a clearer signal of progress • standardizing measurement wherever possible to permit comparison • comparing indicator values to targets, reference values, ranges, thresholds, or direction of trends, as appropriate 	
<p>6. Openness</p>	

Principle	Application to evaluating the ICMP workstream
<p>Assessment of progress toward sustainable development should:</p> <ul style="list-style-type: none"> • make the methods and data that are used accessible to all • make explicit all judgments, assumptions, and uncertainties in data and interpretation 	
<p>7. Effective communication</p> <p>Assessment of progress toward sustainable development should:</p> <ul style="list-style-type: none"> • be designed to address the needs of the audience and set of users • draw from indicators and other tools that are stimulating and serve to engage decision-makers • aim, from the outset, for simplicity in structure and use of clear and plain language 	
<p>8. Broad participation</p> <p>Assessment of progress toward sustainable development should:</p> <ul style="list-style-type: none"> • obtain broad representation of key grass-roots, professional, technical and social groups , including youth, women, and indigenous people - to ensure recognition of diverse and changing values • ensure the participation of decision-makers to secure a firm link to adopted policies and resulting action 	
<p>9. Ongoing assessment</p> <p>Assessment of progress toward sustainable development should:</p> <ul style="list-style-type: none"> • develop a capacity for repeated measurement to determine trends • be iterative, adaptive, and responsive to change and uncertainty because systems are complex and change frequently • adjust goals, frameworks, and 	

Principle	Application to evaluating the ICMP workstream
<p>indicators as new insights are gained</p> <ul style="list-style-type: none"> • promote development of collective learning and feedback to decision-making 	
<p>10. Institutional capacity</p> <p>Continuity of assessing progress toward sustainable development should be assured by:</p> <ul style="list-style-type: none"> • clearly assigning responsibility and providing ongoing support in the decision-making process • providing institutional capacity for data collection, maintenance, and documentation • supporting development of local assessment capacity 	

Appendix 8: Further information about building logic models for conducting a programme evaluation

Clarifying the aims of evaluations under RMA and LGA

“Policy and plan monitoring is more than a statutory requirement. It is a useful management tool to evaluate and review the effectiveness of policy provisions and plans” (Quality Planning website, <http://www.qualityplanning.org.nz/monitoring/effective-monitor.php>).

The purpose of policy and plan monitoring can include (ibid):

- “accountability to the community, to show that you have provided a means of managing what you said you would manage and achieved the plan's environmental goals, as required by the RMA and LGA; or
- “continuous improvement of your organisation; or
- “both – which is likely to be a useful approach.”

“Did the policy or plan achieve its aims?” is the fundamental question. The following questions, adapted from the Quality Planning website, aim to help answer it:

- did the policy or plan cover the most important things?
- how well was the policy or plan prepared?
- how well was the policy or plan implemented?
- are other implementing agencies delivering on outcomes?
- have the anticipated outcomes been achieved?
- how can we do better?

Table 7 overleaf sets out the key types of evaluation question for different stages of a project.

There is more on the purposes of evaluation in:

Treasury Board of Canada. August 2001. Guide for the Development of Results-based Management and Accountability Frameworks. Accessed 3 October 2007 from http://www.tbs-sct.gc.ca/eval/pubs/rmaf-cgrr/rmaf_Guide_e.pdf.

Watson, DE, Broemeling A-M, Reid RJ and C Black. September 2004. A results-based logic model for primary health care: laying an evidence-based foundation to guide performance, measurement, monitoring and evaluation. A report prepared for the Centre for Health Services and Policy Research, College of Health Disciplines, University of British Columbia. Accessed 25 September 2007 from <http://www.chspr.ubc.ca/research/phc/logicmodel>.

W.K. Kellogg Foundation. Updated January 2004. Logic Model Development Guide: using logic models to bring together planning, evaluation, and action. Accessed 25 September 2007 from www.wkkf.org/Pubs/Tools/Evaluation/Pub3669.pdf.

Table 7 Dimensions of the forms of evaluation

Source: Owen and Rogers, 1999, pages 53-54 (cited in Vowless, 2002)

Problem evaluation

Purpose	To help programme planners to make decisions about what type of programme is needed.
Timing	Pre-programme phase, ideally before programme design
Typical questions	Is there a need for this programme? What do we know about this problem that the programme will address? What is recognised as best practice in this area? Have there been other attempts to find solutions to this problem? What does the relevant research or conventional wisdom tell us about this problem? What could we find out from external sources to rejuvenate an existing policy or programme?
Typical methods	Review of documents and databases, site visits and other interactive methods. Focus groups useful for needs assessment.

Design evaluation

Purpose	Concentrates on clarifying the internal structure and functioning of a programme (its theory)
Timing	Pre-programme and during early implementation phases
Typical questions	What are the intended outcomes and how is the programme designed to achieve them? What is the underlying rationale for this programme? Is the programme plausible? What programme elements need to be modified in order to maximise the intended outcomes? Which aspects of this programme are amenable to a subsequent monitoring or impact assessment?
Typical methods	Generally relies on a combination of document analysis, interview and observation. Findings include programme plans and implications for organisation.

Implementation evaluation

Purpose	To improve delivery or implementation of an existing programme.
Timing	During early and mature implementation phases
Typical questions	What is this programme trying to achieve? How is this service going? Is the delivery working? Is delivery consistent with the programme plan? How could delivery be changed to make it more effective? How could this organisation be changed so as to make it more effective?
Methods	Relies on intensive onsite studies, including observation. May involve stakeholders and researchers.

Monitoring evaluation

Purpose	To provide an indication of the success or otherwise of the programme. Often linked to funding decisions.
Timing	During mature implementation phase
Typical questions	Is the programme reaching the target population? Is implementation meeting programme benchmarks? How is implementation going between sites? How is it now compared with a month ago? Are our costs rising or falling? How can we fine-tune the programme to make it more effective? Is there a programme site that needs attention to ensure more effective delivery?
Methods	The use of indicators and the meaningful use of performance information.

Impact evaluation

Purpose	Assess the impact of a completed programme by examining attainment of objectives and intended/unintended outcomes.
Timing	Post-programme phase
Typical questions	Has the programme been implemented as planned? Have the stated goals of the programme been achieved? Have the needs of those served by the programme been achieved? What are the unintended outcomes? Does the implementation strategy lead to intended outcomes? How do differences in implementation affect programme outcomes? Has the programme been cost-effective?
Typical methods	Traditionally required use of preordinate research designs, where possible the use of treatment and control groups, and the use of tests and other quantitative data. Studies of implementation generally require observational data. Determining all the outcomes requires the use of more exploratory methods and the use of qualitative evidence.

Situation analysis

Not all logic models explicitly provide for a critique of the situation analysis, although it is noted (Treasury Board of Canada, 2001) that it is essential to describe the origin of the policy, programme or initiative and demonstrate the identified need to which it responds. It is also essential (W.K. Kellogg Foundation, 2004) to:

- state the problems or issues to be addressed clearly enough to start a series of clear and specific connections throughout the whole logic chain;
- have a specific, clear connection between the identified community needs/assets and the problems to be solved (or issues to be addressed); and
- ensure that the breadth of community needs/assets has been identified by expert/practitioner wisdom, a needs assessment and/or asset mapping process.

The evaluation questions and possible indicators below are therefore suggested as part of the final feedback loop based on evaluation of the outcomes of the ICMP strategy workstream.

Specific elements of the situation analysis will be used to derive evaluation questions and indicators for other parts of the logic model.

As well as identifying issues (in the language used in the Resource Management Act), PEST and SWOT analyses are widely business planning tools (see Doshier et al) to help identify stakeholder interactions, external drivers e.g. growth, needs, assets, bridges and barriers.

Typically the PEST analysis is done first, followed by the SWOT, to cover the following main aspects of the context in which a programme is planned:

- PEST (situation) analysis, focusing mainly on the external context:
 - Political/legal context
 - Economic context
 - Social/demographic context
 - Technological context
- SWOT (organisational) analysis, focusing mainly on the internal context:
 - Strengths
 - Weaknesses
 - Opportunities
 - Threats

Some questions intended to clarify and justify the situation analysis are suggested overleaf.

Situation analysis	
Evaluation questions	Possible indicators, data sources, methods
1. How clearly does the situation analysis summarise the common understanding of by all stakeholders of the basic nature and extent of the problem drivers, pressures, state and impacts?	Feedback on draft and final ICMP workstream strategy from internal and external stakeholders.
2. Has a full PEST and SWOT analysis been done?	Yes / No
3. Have these and any other catchment management planning issues been prioritised into an agreed ranking?	Yes: ranked in order of importance. No: not ranked in order of importance. N/A: not necessary to do so.
4. Does the policy response (workstream inputs and activities) address these in terms of logical links and proportionality of investment?	Gap analysis: workstream activities address all identified issues in proportion to their importance.
5. How well do the situation analysis and policy response relate to indicators of state and impacts of concern used in the ARC's and TAs' state of the environment and related outcome monitoring programmes?	Comparison of indicators or categories of indicators based on criteria set out in Beanland and Huser (1999).
6. Does the situation analysis need to be updated or refined to reflect new multiple bottom line objectives and updated indicators of state and impacts of concern, if these have changed over time?	Feedback on ICMP workstream strategy from evaluation process involving internal and external stakeholders.
7. Have all stakeholders been identified to ensure that the situation analysis is updated or refined by way of a robust and agreed process?	A comprehensive stakeholder analysis is done by way of a participatory approach involving internal and external stakeholders as indicated in Allen and Kilvington (2001) and Chapter 4 of WJ Kellogg (2004).

Vision and objectives

A comprehensive vision is needed to inform the policy cycle to ensure it is creative – promoting more sustainable outcomes; as well as reactive – responding to issues, drivers, pressures and impacts. A vision can be framed as a fourth order outcome against which the above can be assessed (Olsen 2003, UNEP/GPA 2006). The SWAT has already outgrown its original vision, though it has not yet formulated a new one.

The collaborative approach has provided opportunities for internal and external stakeholders to canvass the deliverables they need from the ICMP workstream. There is a high degree of consensus that good ICMPs are urgently needed to respond to the pressures of growth. Based on feedback from internal ARC workshops and TA interviews, the following is proposed as a vision (based on Olsen’s 4th order outcome) for critique within the context of the logic model by the key internal and external stakeholders:

“A catchment management approach to planning in which excellent ICMPs promote streamlined regional / territorial land use / asset planning and management that makes a real contribution to delivering a unique and outstanding environment and other community benefits across multiple bottom lines.”

Objectives should be framed in positive terms in order to facilitate the development of indicators to monitor progress towards achieving them. To take the example of flooding, it is better to frame the objective around protecting homes than reducing flood damage (Feeney et al, 2007).

A vision of the transition to more sustainable urban catchments may be found in Rebekah Brown and Jodi Clarke, June 2007. Transition to water sensitive urban design: the story of Melbourne, Australia. School of Geography and Environmental Science, Faculty for Advancing Water Biofiltration, Monash University. Report 07/01. Accessed November 2007 from <http://www.arts.monash.edu.au/ges/research/nuwgp/pdf/final-transition-doc-rbrown-29may07.pdf>.

Some questions intended to clarify and justify the situation analysis are suggested below.

Vision and objectives	
Evaluation questions	Possible indicators, data sources, methods
1. How well does the proposed vision define the internal and external stakeholders’ needs from and aspirations for the ICMP workstream strategy (in terms of Olsen’s 4 th order outcomes)?	Feedback on draft vision from internal and external stakeholders, informed by understanding of Olsen’s 4 th order outcomes (UNEP/GPA, 2006).
2. How accurately does the proposed high level logic model generally describe the ICMP workstream	Feedback from internal and external stakeholders from evaluation process.

strategy and its intended results?	
3. How well did the CMPs meet their stated aims and objectives?	Comparison of a sample of currently operational CMPs against the 8 PUCM criteria for a good plan (Ericksen et al, 2003).
4. How well have ICMPs prepared up to November 2007 contributed to progress towards the bottom lines in the strategic and operational objectives set out in the legislation, plans and strategies and technical publications that influence ICMPs?	Comparison of a sample of currently operational ICMPs against the 8 PUCM criteria for a good plan (Ericksen et al, 2003).

Programme inputs and stakeholder analysis

Useful questions to help clarify thinking about these may be found in:

Taylor-Powell, Ellen. October 2002. Water Quality Program: Logic model, evaluation questions, indicators. University of WI-Extension. Accessed 25 September 2007 from <http://www.uwex.edu/ces/pdande/evaluation/pdf/WaterQualityProgram.pdf>.

UNEP/GPA (United Nations Environment Programme/Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, of the United Nations Environment Programme. 2006. Ecosystem-based management: markers for assessing progress. UNEP/GPA, The Hague. Available at http://www.gpa.unep.org/documents/ecosystem-based_management_english.pdf.

W.K. Kellogg Foundation. Updated January 2004. Logic Model Development Guide: using logic models to bring together planning, evaluation, and action. Accessed 25 September 2007 from www.wkkf.org/Pubs/Tools/Evaluation/Pub3669.pdf.

Selecting indicators

Monitoring provisions and responsibilities need to be included in plans so councils can assess progress towards sustainability: according to Ericksen et al (ibid), this involves:

- referring to a monitoring strategy or framework for environmental monitoring, e.g.:
 - overviewing monitoring responsibilities and a broad strategy for undertaking monitoring;
 - referring to detailed monitoring plans or programmes which sit outside the plan;
 - identifying data and information sources for monitoring and linking to specific indicators;
- including provisions for monitoring the performance of the plan , e.g.:
 - identifying specific indicators and linking to the relevant environmental results, such as number of conservation covenants for indigenous vegetation protection;

- highlighting key areas or priorities for improving performance and collecting data;
- outlining the process of monitoring and the feedback loop to any necessary policy changes;
- integrating with other organisations with monitoring or information provision responsibilities:
 - referring to other agencies and their monitoring programmes and explaining how information will be shared; and
 - understanding other agencies' monitoring direction and forward planning and co-ordinating best use of resources.

There is more information about monitoring in the following documents:

Beanland R. and Huser B. 1999. Integrated monitoring: a manual for practitioners. Environment Waikato, with support from the Ministry for the Environment. Available at www.qualityplanning.org.nz/pubs/3578.pdf.

Kettle, D, 2007. An urban 3-waters infrastructure sustainability decision-making process. A thesis presented towards a PhD in the School of Architecture and Planning.

Ministry for the Environment, 1999. Environmental education: a guide for programme providers - how to develop, implement and evaluate strategies and programmes. (The "Blue Book").

Ministry for the Environment, 1996. A practitioner's guide to Section 35 of the Resource Management Act 1991. See also <http://www.qualityplanning.org.nz/monitoring/index.php>

North Shore, Waitakere, Auckland, Manukau, Hamilton, Wellington, Christchurch and Dunedin City Councils. 2003. Quality of Life in New Zealand's eight largest cities. Available from <http://www.bigcities.govt.nz/>.

Office of the Auditor General <http://www.oag.govt.nz/> reports on waste and LTCCPs (see local government sector).

Statistics New Zealand and the Ministry for the Environment, 2002. Monitoring progress towards sustainable development in New Zealand: an experimental report and analysis.

Woodhill J and L Robins. 1998. Participatory evaluation for Landcare and catchment groups: a guide for facilitators. Greening Australia, Yarralumla, ACT. http://portals.wi.wur.nl/msp/?Facilitation_Skills or http://live.greeningaustralia.org.au/nativevegetation/pages/bibliography_p.html#W

Assumptions

Many hidden assumptions are made about status and causality associated with context, vision, objectives, activities, uptake and outcomes over time. Imperfect data means wherever possible, assumptions should be spelled out so their validity can be tested as the programme progresses.

Assumptions are implicit in the way programme managers frame issues, objectives and solutions. Logic models and programme evaluation can help reveal assumptions when things don't happen quite as anticipated.

Some of the assumptions apparently implicit in the ICMP workstream are that working more closely with TAs and encouraging engineers, planners and other relevant practitioners to work more closely together will build positive working relationships and raise awareness of catchment planning issues and solutions, hence resulting in more understanding and ownership and uptake of catchment planning tools. It is then assumed or hoped that such uptake will yield better outcomes. Hence, TAs prepare good ICMPs; good ICMPs enable better land use and stormwater planning to occur at regional and territorial level; and better planning will produce better MBL outcomes for the TAs, the ARC and their region-wide constituencies.

External influences

External influences include factors or events beyond the control of the ARC which may enhance or impede the success of its programmes.

Synergies (positive external factors that are congruent with and/or operate to support the activities and intended outcomes of the ICMP workstream) include things such as:

- the need for councils to obtain network discharge consents under the RMA, because ICMPs can help with identifying effects and management tools to help prepare the assessment of environmental effects in support of the applications;
- pressure to shift the metropolitan urban limits, resulting in a demand for more catchment-related infrastructure;
- the requirement to engage in other planning processes under the LGA and RMA driven by growth and the need to review key regional and territorial statutory plans; and
- increased public awareness of environmental issues and infrastructure costs.

Confounding factors (negative external factors that tend to compete, conflict or operate in opposition to the activities and intended outcomes of the ICMP workstream) include things such as:

the lack of capacity in the wider industry, meaning that staff of councils and consultancies are increasingly busy;

organisational changes and staff turnover at the ARC and in the TAs and the wider regional and national industry; and

loss of continuity of staff and institutional knowledge in the industry in the Region.

Factors such as staff turnover may be beyond the control of ICMP stakeholders in the region, but clear definition of such problems may sometimes indicate solutions and other opportunities. It may thus be of interest to draw upon human resources data to document industry-wide staff turnover against the lower quartile to median level benchmark for voluntary turnover for professionals, which is 5-12% a year (Forsyth, 2006).

Efficiency, effectiveness and accountability

The ARC is an agent as well as a catalyst and has responsibilities under both the Resource Management Act and Local Government Act for planning, consenting and monitoring of environmental and other outcomes.

The ARC's activities include those with a degree of control over the results, and those that can only influence or encourage. The two arrows across the top of Figure 2 therefore show that the ARC's direct accountability merges into shared accountability with that of the TAs, so that measures of efficiency (what the ARC can do) will overlap with measures of effectiveness (what the ARC can influence) along all the timeframes for programme outcomes. This distinction will help develop appropriate indicators that help all stakeholders reflect on and adjust programme efforts on an ongoing basis.

The effectiveness of the ARC's ICMP workstream is thus partly (though not entirely) measured by the effectiveness of the ICMPs that TAs produce (including the early CMPs that targeted flooding, as well as the latest generation that also address water quality and receiving environments).

Evaluation questions	Possible indicators, data sources, methods
<p>1. How clearly and consistently are the respective catchment planning, management and monitoring roles and responsibilities of the ARC and TAs defined and agreed amongst all parties?</p>	<p>Feedback on ICMP workstream strategy from evaluation process. RMA / LGA and regional plan provisions. Network consent conditions.</p>
<p>2. How well are the respective ICMP workstreams integrated for cost-effective task-sharing?</p>	<p>Review of the above and critique against integrated monitoring provisions of the Quality Planning website.</p>

Worksheets used to build logic models

Workshop 02, 2 October 2007: Using a logic model to develop performance indicators. Based on Taylor-Powell, Ellen. October 2002. Water Quality Program: Logic model, evaluation questions, indicators. University of WI-Extension. Accessed 25 September 2007 from <http://www.uwex.edu/ces/pdande/evaluation/pdf/WaterQualityProgram.pdf>.

Activity: _____ **Situation:** _____

Inputs	Outputs		Outcomes		
	Activities	Stakeholders	Short term	Medium term	Long term

Evaluation questions: what do you want to know?					
Inputs	Outputs		Outcomes		
	Activities	Stakeholders	Short term	Medium term	Long term
<ul style="list-style-type: none"> • Were the inputs sufficient and timely, given the situation? • Did they meet the programme goals? • 	<ul style="list-style-type: none"> • Did all activities occur as intended? • Was the content and quality of the intervention appropriate? • Are records well-kept and accessible? • 	<ul style="list-style-type: none"> • Did we identify all stakeholders? • Did we identify their issues, needs, barriers and strengths? • Did they take part (uptake)? • What were their reactions? • Who did and didn't take part and why? • Who else was reached? • 	<ul style="list-style-type: none"> • Did knowledge, attitude or practices change? • What else happened? • 	<ul style="list-style-type: none"> • Are stakeholders (monitoring the outcomes and effectiveness of their new or changed practices)? • Are they doing anything else of interest? • 	<ul style="list-style-type: none"> • Is there a measurable change in the relevant multiple bottom lines towards achieving our strategic objectives and 4th order outcomes? • What are the benefits? • What adverse consequences could there be? •
Indicators: how will you know it? (i.e., what will you measure to help you assess performance?) Consider information sources, data collection frequency and methods etc.					
Inputs	Outputs		Outcomes		
	Activities	Stakeholders	Short term	Medium term	Long term
<ul style="list-style-type: none"> • Funding • Staff time • Access to internal and external resources • 	<ul style="list-style-type: none"> • Did we do the things we said we would? • 	<ul style="list-style-type: none"> • • 	<ul style="list-style-type: none"> • • 	<ul style="list-style-type: none"> • • 	<ul style="list-style-type: none"> • •

Inputs	Outputs		Outcomes		
	Activities	Stakeholders	Short term	Medium term	Long term
<ul style="list-style-type: none"> • SWAT ICMP <p>(2 People)</p> <ul style="list-style-type: none"> • \$ (small amount) • Other SWAT staff 	<ul style="list-style-type: none"> • Monthly ICMP liaison meetings with each TA • Regular working group meetings with TA representatives to discuss ICMP issues and strategies • Attend (regular) meetings which are important to understand the needs of stakeholders • Give feedback on ICMP related papers (e.g milestone reports) in a timely manner • Develop partnerships with other ARC programmes 	<ul style="list-style-type: none"> • TA • ARC Staff • Consultants 	<ul style="list-style-type: none"> • Regular meetings to take place • Trust in relationship is/will be achieved • Information sharing • Working together for same goals 	<ul style="list-style-type: none"> • Agreement on contents and Quality of ICMPs 	<ul style="list-style-type: none"> • Good quality ICMPs • ICMPs are inline with other programmes • Everybody is happy with ICMPs

Evaluation questions: what do you want to know?					
Inputs	Outputs		Outcomes		
	Activities	Stakeholders	Short term	Medium term	Long term
<ul style="list-style-type: none"> • Were the inputs sufficient and timely, given the situation? • Did they meet the programme goals? • 	<ul style="list-style-type: none"> • Did all activities occur as intended? • Was the content and quality of the intervention appropriate? • Are records well-kept and accessible? • Did monthly and regular meetings actually take place? • Was feedback given in a timely manner • Were stakeholders satisfied with feedback? • Which partnerships have been developed? 	<ul style="list-style-type: none"> • Did we identify all stakeholders? • Did we identify their issues, needs, barriers and strengths? • Did they take part (uptake)? • What were their reactions? • Who did and didn't take part and why? • Who else was reached? • 	<ul style="list-style-type: none"> • Did knowledge, attitude or practices change? • What else happened? • Did meetings take place? • Do the parties trust each other? • What information was shared? • Is there a working relationship? • Do the parties have same/similar goals? 	<ul style="list-style-type: none"> • Are stakeholders (monitoring the outcomes and effectiveness of their new or changed practices? • Are they doing anything else of interest? • Do parties have a common understanding of ICMP contents and necessary quality? • Do ICMPs and other programmes contribute to each other? 	<ul style="list-style-type: none"> • Is there a measurable change in the relevant multiple bottom lines towards achieving our strategic objectives and 4th order outcomes? • What are the benefits? • What adverse consequences could there be? • Are the stakeholders happy?
Indicators: how will you know it? (i.e., what will you measure to help you assess performance?) Consider information sources, data collection frequency and methods etc.					
Inputs	Outputs		Outcomes		
	Activities	Stakeholders	Short term	Medium term	Long term
<ul style="list-style-type: none"> • Funding • Staff time • Access to internal and external resources 	<ul style="list-style-type: none"> • Did we do the things we said we would? • List of meetings and attendees • Number of requests for feedback • Stakeholder satisfaction in regard to feedback • Form of developed partnerships 		<ul style="list-style-type: none"> • Number of meetings • Survey on: <ul style="list-style-type: none"> - Trust - working relationships ○ goals • List of shared information 	<ul style="list-style-type: none"> • Survey questions on: <ul style="list-style-type: none"> ○ ICMP contents ○ Necessary quality <p>Clear connections "borders" defined between ICMPs and other programmes?</p>	<ul style="list-style-type: none"> • Stakeholder satisfaction with ICMPs and ICMP workstream

Activity: _Relationship Building_ **Situation:** _Achieving Environmental, stormwater and strategic outcomes. Prepared during Workshop 02 on 2.10.07

Inputs	Outputs		Outcomes		
	Activities	Stakeholders	Short term	Medium term	Long term
<ul style="list-style-type: none"> • Staff • Money • Good will (?) • Partners • Technical expertise - legal, scientific, strategic • Research – ARC, national, international • 	<p><u>SW Liaison Group</u></p> <ul style="list-style-type: none"> • (Facilities/venue, catering) • TA run activities <p><u>ICMP Liaison Meetings</u></p> <ul style="list-style-type: none"> • SWAT, consents and policy implementation with each TA • Funding, technical expertise <p><u>ARC technical workshops</u></p> <ul style="list-style-type: none"> • Measurable objectives • TP10 training <p><u>Stormwater Conferences</u></p> <p><u>Twin Streams MoU</u></p> <p><u>Stormwater seminar series</u></p> <p><u>Joint Projects with TA</u></p> <ul style="list-style-type: none"> • Countryside living update • Catch pit? 	<ul style="list-style-type: none"> • TA Stormwater engineers and managers • TA strategic/ policy staff • TA urban design staff • TA consent staff • NZPI (New Zealand Planning Institute) • RMLA • Waicare groups • Stormwater industry consultants (who work for TA's and developers, and constructions people • Internal ARC stakeholders advocacy 	<ul style="list-style-type: none"> • Building trust and respect • Improving collective decision making • Better able to achieve joint outcomes • To build consensus within ARC re- what ICMPs purpose is – how they interrelate with other key ARC strategic objectives • Increase understanding of ICMPs (History) what are they trying to achieve 	<ul style="list-style-type: none"> • Better ICMPs in longer term • TA strategic/ planning and engineering staff working in a more integrated way 	<ul style="list-style-type: none"> • Regional collective understanding of ICMPs processes and outcomes

Evaluation questions: what do you want to know?					
Inputs	Outputs		Outcomes		
	Activities	Stakeholders	Short term	Medium term	Long term
<ul style="list-style-type: none"> • Were the inputs sufficient and timely, given the situation? • Did they meet the programme goals? • 	<ul style="list-style-type: none"> • Did all activities occur as intended? • Was the content and quality of the intervention appropriate? • Are records well-kept and accessible? • In which ARC documents are ICMPs mentioned? Are they promoted in a sufficient manner? • How many meetings are there - internally and with whom? <ul style="list-style-type: none"> - With community? - TAs and with whom? • Do managers understand fully ICMP concept and it's needs? 	<ul style="list-style-type: none"> • Did we identify all stakeholders? • Did we identify their issues, needs, barriers and strengths? • Did they take part (uptake)? • What were their reactions? • Who did and didn't take part and why? • Who else was reached? • 	<ul style="list-style-type: none"> • Did knowledge, attitude or practices change? • What else happened? • Is there good understanding of ICMPs on a manager level within ARC? • Is there a wide audience in the council knowing about ICMPs and their content? • Who is involved in preparing an ICMP? • Who is consulted during ICMP preparation and to what extent? 	<ul style="list-style-type: none"> • Are stakeholders (monitoring the outcomes and effectiveness of their new or changed practices? • Are they doing anything else of interest? • Who is using ICMPs? • Where and when are references made to ICMPs? 	<ul style="list-style-type: none"> • Is there a measurable change in the relevant multiple bottom lines towards achieving our strategic objectives and 4th order outcomes? • What are the benefits? • What adverse consequences could there be? • Are they established? • Do people recognise them as a good planning tool to achieve sustainability?
Indicators: how will you know it? (i.e., what will you measure to help you assess performance?) Consider information sources, data collection frequency and methods etc.					
Inputs	Outputs		Outcomes		
	Activities	Stakeholders	Short term	Medium term	Long term
<ul style="list-style-type: none"> • Funding • Staff time • Access to internal and external resources • Appropriate/ adequately skilled staff • Delivery in time frames 	<ul style="list-style-type: none"> • Did we do the things we said we would? • Number of meetings with different stakeholders • Mentioning od ICMPs in ARC documents (consistency and enough promotion?) <p>Are managers able to explain ICMPs, do they know where the needs are?</p>	<ul style="list-style-type: none"> • Do stakeholders understand purpose of ICMPs? (TAs and internal ARC) • Do stakeholders understand how/why ARC structure is the way it is? 			

Activity: _Plan Quality

Situation: prepared by Claudia Hellberg October 2007

Inputs	Outputs		Outcomes		
	Activities	Stakeholders	Short term	Medium term	Long term
<ul style="list-style-type: none"> • ARC staff (2 people and additional time form other teams) • \$ • Consultants 	<ul style="list-style-type: none"> • Keep up-to-date on latest technologies • Provide technical guidance on preparing ICMPs <ul style="list-style-type: none"> • feedback • tools/methods • guidelines • Provide guidance on regional strategies and envisaged outcomes • Raise capacity in Auckland Region to prepare good quality ICMPs (eg through workshops) 	<ul style="list-style-type: none"> • TAs • ICMP consultants 	<ul style="list-style-type: none"> • There is enough capacity in the ARC, the TAs and among consultants to prepare ICMPs • TAs and consultants have the knowledge of: <ul style="list-style-type: none"> • what to achieve with an ICMP, and • how to do it 	<ul style="list-style-type: none"> • ICMPs are prepared, which: <ul style="list-style-type: none"> - are logical - Provide sufficient information on catchment issues and preferred management options (including BPO) - Have a wide agreement on its content • ICMPs are implemented co-ordinated <ul style="list-style-type: none"> - consents - financial planning - District plans - Community engagement • Measurable changes in: <ul style="list-style-type: none"> - practises - behaviours ○ towards environmental improvements ○ towards positive outputs/outcomes 	<ul style="list-style-type: none"> • Achievement towards: <ul style="list-style-type: none"> - Conway's topics (summary of relevant policies) • Sustainability for the Auckland region

Evaluation questions: what do you want to know?					
Inputs	Outputs		Outcomes		
	Activities	Stakeholders	Short term	Medium term	Long term
<ul style="list-style-type: none"> Were the inputs sufficient and timely, given the situation? Did they meet the programme goals? 	<ul style="list-style-type: none"> Did all activities occur as intended? Was the content and quality of the intervention appropriate? Are records well-kept and accessible? 	<ul style="list-style-type: none"> Did we identify all stakeholders? Did we identify their issues, needs, barriers and strengths? Did they take part (uptake)? What were their reactions? Who did and didn't take part and why? Who else was reached? 	<ul style="list-style-type: none"> Did knowledge, attitude or practices change? What else happened? Is it clear to TAs and consultants what can and should be achieved with an ICMP? Is it do-able in the set timeframe? Do council staff and consultants have enough capacity to cope with demand? 	<ul style="list-style-type: none"> Are stakeholders (monitoring the outcomes and effectiveness of their new or changed practices)? Are they doing anything else of interest? Do different stakeholders agree on ICMP contents? Are ICMPs widely accepted & used as a planning tool? Are ICMPs driven for statutory plan changes? Do ICMPs set directions for financial plans? Are outcomes measurable? 	<ul style="list-style-type: none"> Is there a measurable change in the relevant multiple bottom lines towards achieving our strategic objectives and 4th order outcomes? What are the benefits? What adverse consequences could there be?
Indicators: how will you know it? (i.e., what will you measure to help you assess performance?) Consider information sources, data collection frequency and methods etc.					
Inputs	Outputs		Outcomes		
	Activities	Stakeholders	Short term	Medium term	Long term
<ul style="list-style-type: none"> Funding Staff time Access to internal and external resources 	<ul style="list-style-type: none"> Did we do the things we said we would? Attendance of conferences, workshops etc on ICMP related topics from key ARC staff Satisfaction of TAs and TLAs consultants on ICMP feedback Are provided tools and methods used and deliver envisaged output (has to be defined for each tool/method upon introduction) Does Guideline provide enough information? Or are there open questions? Is it understandable? Is there enough guidance on regional issues Amount of TAs and consultants attending ICMP capacity building Amount of ICMP Capacity building initiatives 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Number of attendees of ICMP capacity building initiatives Is everybody aware of this role in the ICMP process and knows what to do Is amount of trained staff equal to work load? Is quality of ICMP equal to defined <u>quality standard</u>? 	<ul style="list-style-type: none"> Amount of stakeholder involvement in preparation phase of ICMP Information in ICMP sufficient for implementation (e.g NDC can be granted easily) Achievements can be measured 	<ul style="list-style-type: none"> ICMPs are recognised to have contributed towards a sustainable Auckland region!

Activity: Network discharge consent__ **Situation:** _ICMPs should provide technical info for network discharge consent.

Prepared during Workshop 02 on 2.10.07

Inputs	Outputs		Outcomes		
	Activities	Stakeholders	Short term	Medium term	Long term
<ul style="list-style-type: none"> • Schedule 9 of ALW (legal requirements) • Funding to TLAs for ICMPs • Technical input to consent project teams • “funding” guidelines • CLM/ other modelling 	<ul style="list-style-type: none"> • Providing advice to TLAs • Technical review of ICMP sections • Guideline/TP/Preparations/publishing – input into SLG to assist in appropriate NDC decision making 	<ul style="list-style-type: none"> • TLAs (territorial local authorities) • Network operators • Consultants • Reg services • Affected parties • Interested parties • Other ARC teams (policy, science) • Councillors/counsel • Independent commissioners • Wider stormwater industry 	<ul style="list-style-type: none"> • Better informed TLAs and other stakeholders • RMA requirements met • Better informed ARC staff about what an ICMP should be 	<ul style="list-style-type: none"> • Staff less stressed and improved staff retention • Easier/quicker/cheaper consent process • Happier rate payers 	<ul style="list-style-type: none"> • Improved ICMPs, integrated approach within TLAs • Improved environmental outcomes • Protection of streams • Health and safety of communities • Reduced flooding • Reduced stream erosion • Social and economic functions maintained

Evaluation questions: what do you want to know?					
Inputs	Outputs		Outcomes		
	Activities	Stakeholders	Short term	Medium term	Long term
<ul style="list-style-type: none"> Were the inputs sufficient and timely, given the situation? Did they meet the programme goals? 	<ul style="list-style-type: none"> Did all activities occur as intended? Was the content and quality of the intervention appropriate? Are records well-kept and accessible? In which ARC documents are ICMPs mentioned? Are they promoted in a sufficient manner? How many meetings are there <ul style="list-style-type: none"> internally and with whom? With community? TAs and with whom? Do managers understand fully ICMP concept and it's needs? 	<ul style="list-style-type: none"> Did we identify all stakeholders? Did we identify their issues, needs, barriers and strengths? Did they take part (uptake)? What were their reactions? Who did and didn't take part and why? Who else was reached? 	<ul style="list-style-type: none"> Did knowledge, attitude or practices change? What else happened? Is there good understanding of ICMPs on a manager level within ARC? Is there a wide audience in the council knowing about ICMPs and their content? Who is involved in preparing an ICMP? Who is consulted during ICMP preparation and to what extent? 	<ul style="list-style-type: none"> Are stakeholders (monitoring the outcomes and effectiveness of their new or changed practices? Are they doing anything else of interest? Who is using ICMPs? Where and when are references made to ICMPs? 	<ul style="list-style-type: none"> Is there a measurable change in the relevant multiple bottom lines towards achieving our strategic objectives and 4th order outcomes? What are the benefits? What adverse consequences could there be? Are they established? Do people recognise them as a good planning tool to achieve sustainability?
Indicators: how will you know it? (i.e., what will you measure to help you assess performance?) Consider information sources, data collection frequency and methods etc.					
Inputs	Outputs		Outcomes		
	Activities	Stakeholders	Short term	Medium term	Long term
<ul style="list-style-type: none"> Funding Staff time Access to internal and external resources 	<ul style="list-style-type: none"> Did we do the things we said we would? 	<ul style="list-style-type: none"> Number of meetings with TLAs 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Reg services satisfaction with ICMP quality 	

Activity: ___Awareness raising___ Situation: _

Prepared by Claudia Hellberg October 2007

Inputs	Outputs		Outcomes		
	Activities	Stakeholders	Short term	Medium term	Long term
<ul style="list-style-type: none"> • SWAT ICMP staff (2 people) • \$ (small amount) • SWAT leader 	<ul style="list-style-type: none"> • Ensure ICMPs are recognised as a good planning tool and are highlighted in ARC strategies, statements and plans (e.g ASF, RPS, ARP:ALW) • Keep close contact to policy and planning staff to ensure that ICMP are in line with other regional goals and plannings • Liaise with – industry <ul style="list-style-type: none"> - communitis - councillors • Liaise with TA staff (Storwater engineers) more partnership building for others awareness first step important • Keep ARC manger up-to-date on ICMP workstream issues 	<ul style="list-style-type: none"> • ARC manager • Several ARC teams (especially policy and planning) • Wider industry (stormwater, land use etc) • Community groups • Councillors • TA staff 	<ul style="list-style-type: none"> • Representative manager value ICMPs and promote them • Key ARC and TA staff (beyond stormwater engineers) and councillors are aware of ICMPs, have an idea about their contents and objectives • Key ARC and TA staff are contributing to ICMP contents • Wider Industry and community groups are interested in ICMPs and want to be consulted during preparation. 	<ul style="list-style-type: none"> • All stakeholders accept and value ICMPs • Value will be addes to ICMPs through stakeholder input • Wide agreement on ICMPs content and especially management options • Implementation much easier through stakeholder buy-in 	<ul style="list-style-type: none"> • ICMPs are an established planning tool for achieving sustainable outcomes

Evaluation questions: what do you want to know?					
Inputs	Outputs		Outcomes		
	Activities	Stakeholders	Short term	Medium term	Long term
<ul style="list-style-type: none"> • Were the inputs sufficient and timely, given the situation? • Did they meet the programme goals? • 	<ul style="list-style-type: none"> • Did all activities occur as intended? • Was the content and quality of the intervention appropriate? • Are records well-kept and accessible? • In which ARC documents are ICMPs mentioned? Are they promoted in a sufficient manner? • How many meetings are there <ul style="list-style-type: none"> - internally and with whom? - With community? - TAs and with whom? • Do managers understand fully ICMP concept and it's needs? 	<ul style="list-style-type: none"> • Did we identify all stakeholders? • Did we identify their issues, needs, barriers and strengths? • Did they take part (uptake)? • What were their reactions? • Who did and didn't take part and why? • Who else was reached? • 	<ul style="list-style-type: none"> • Did knowledge, attitude or practices change? • What else happened? • Is there good understanding of ICMPs on a manager level within ARC? • Is there a wide audience in the council knowing about ICMPs and their content? • Who is involved in preparing an ICMP? • Who is consulted during ICMP preparation and to what extent? 	<ul style="list-style-type: none"> • Are stakeholders (monitoring the outcomes and effectiveness of their new or changed practices? • Are they doing anything else of interest? • Who is using ICMPs? • Where and when are references made to ICMPs? 	<ul style="list-style-type: none"> • Is there a measurable change in the relevant multiple bottom lines towards achieving our strategic objectives and 4th order outcomes? • What are the benefits? • What adverse consequences could there be? • Are they established? • Do people recognise them as a good planning tool to achieve sustainability?
Indicators: how will you know it? (i.e., what will you measure to help you assess performance?) Consider information sources, data collection frequency and methods etc.					
Inputs	Outputs		Outcomes		
	Activities	Stakeholders	Short term	Medium term	Long term
<ul style="list-style-type: none"> • Funding • Staff time • Access to internal and external resources • 	<ul style="list-style-type: none"> • Did we do the things we said we would? • Number of meetings with different stakeholders • Mentioning od ICMPs in ARC documents (consistency and enough promotion?) • Are managers able to explain ICMPs, do they know where the needs are? 	<ul style="list-style-type: none"> • • 	<ul style="list-style-type: none"> • Can stakeholders answer questions around ICMPs correctly? • Teams/ skills involved in preparing ICMPs • Consulted parties / extent of consultation (just informing or even part of decision making) 	<ul style="list-style-type: none"> • ICMP of usage (number of consents, district plan changes etc) • ICMP references (number) • 	<ul style="list-style-type: none"> • Frequency of usage and updates •

