

Strategic Planning for Total Water Cycle Management
Turning Rhetoric into Reality
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Summary

Integrated approaches to policy and planning are frequently advocated as the preferred response to Natural Resource Management (NRM) at all levels of government. The notion of integrated governance promotes cross-sectoral inter-organisational interaction and multi-sectoral collaboration seeking to overcome traditionally fragmented and single issue defined policy processes and structures. Integrated Water Cycle Management (IWCM) can be located within the broader discourse of integrated governance and more specifically within Integrated Environmental Management (IEM). While there is general agreement surrounding the theoretical value of this discourse and its underpinning principles, the movement from rhetoric to reality is more complex.

The ***Strategic Framework for Integrated Water Cycle Management and Sustainable Stormwater Outcomes in the Mid-North Coast Region*** is a project which grapples with the 'rhetoric reality' dilemma through exploring strategic planning as a tool and process for working towards IWCM within a local government and catchment context.

1. Introduction

Population and developmental pressures on fresh water resources are multitudinous. Fresh water is integral for healthy ecological and social function but it is becoming increasingly degraded as the demand for this scarce resource increases. The need to manage these pressures, striking a careful balance between present needs and future requirements, is a pressing issue articulated through a sizable body of international and domestic literature. Evidence of a social paradigm shift towards the concept of sustainability is also indicative of a pressing need to carefully manage

water resources, clearly demonstrated through a plethora of environmental policy requirements and legislation that governments are obliged to consider and enact.

Contemporary environmental management practices sit on a precipice of change. Signs are encouraging, yet considerable rhetoric relating to environmental management is materialising in education, governance, policy, management systems and frameworks. The evolutionary learning curve has been steep and in our haste to adopt and effectively implement conservation management practices, which preserve and utilise resources in a sustainable manner we have neglected key issues by default and design (Dutton and Saenger 1994). Management has been fragmented, reactive and uninformed leading to ineffective, disjointed conservation efforts, leaving water resources susceptible to biological degradation and exploitation.

Integrated water cycle management (IWCM)¹ is a process orientated approach which holds considerable promise to empower local government and the community to effectively manage scarce water resources. This interactive natural resource management (NRM) approach is based on cross-sectoral inter-organisational interaction and multi-sectorial collaboration, a process which is highly reliant on broad community participation and a whole systems view of ecological, hydrological and geomorphic processes. An increasing incidence of integrated water cycle management approaches signifies the evolution of management practices away from government centred, single issue approaches (Bellamy et al 2002), reflective of a new awareness of terrestrial and marine environments as highly complex interconnected systems which rely on infinite interdependencies.

There are significant and wide ranging challenges associated with translating the governance rhetoric which underpins IWCM into practical processes and outcomes. Strategic planning has been advocated as one process for achieving IWCM. Some critical questions are: What is IWCM? What are its features? What are the tools and processes for achieving IWCM? What are the practical challenges associated with achieving IWCM? and, more importantly, what needs to happen to meet these challenges?

The ***Strategic Framework for Integrated Water Cycle Management and Sustainable Stormwater Outcomes in the Mid-North Coast Region*** is a project funded by the NSW Government through its Stormwater Trust which aims to enhance the organisational and institutional capacity of Hastings and Greater Taree Councils to deliver economically, socially and ecologically sustainable environmental and stormwater outcomes for their local government areas. The project seeks to develop, trial, test and implement integrated water cycle management strategies through extensive stakeholder engagement and offers strategic value for Councils throughout NSW as a model for integrated water cycle management.

2. Integrated Water Cycle Management – Overview of broader policy context

The concept of IWCM can be located within the wider discourse of Ecologically Sustainable Development (ESD) and more specifically, Integrated Environmental Management (IEM) and Total Catchment Management (TCM). Margerum (1999: 151) defines IEM as ‘...a holistic and goal-oriented approach to environmental management that addresses interconnections through a strategic approach’. IEM is based on the premise that resources can not be compartmentalised and that the natural environment is a complex social, economic and political system that can not be conceptualised in solely biophysical terms. TCM can be defined as ‘an attempt to address

¹ ‘Water Cycle Management’ refers to the management of water supply, sewerage and stormwater.

natural resource management issues in a holistic and coordinated way' (Farrier 1993: 90) and has emerged as a dominant influence within the wider model of IEM as part of a trend towards community involvement and regional-based approaches to the management of natural resources (Reeve et al 2002: 27). TCM is currently the natural resource management policy framework adopted by the Commonwealth and most State and Territory governments (Bellamy et al 2002).

Within this wider policy context therefore, IWCM is not simply the *outcome* of managing the water supply, sewerage and stormwater together, it is necessarily the decision making processes, structures, tools, planning instruments, systems etc which facilitate or enable this outcome. IWCM is as much about *process* as it is about *outcomes*. IWCM is an iterative process which requires a model of governance that is consistent with the principles of IEM. Such a model would:

- Operate across all spheres – ecological, social, political and economic;
- Facilitate collaborative relationships at the organisational and institutional level;
- Utilise a synergistic approach which relies on both structural and non-structural solutions.

In a local government context, this governance framework must enable a strategy which addresses the following:

- Objectives and plans to improve water efficiency, water quality, discharge volumes, flood protection, aquatic biodiversity and restoring/maintaining environmental flows;
- Proposed building design, construction practices, soil erosion and pesticide use;
- Landscape remediation and the restoration of natural landscape features;
- Aquifer storage and rainwater recovery;
- Wastewater re-use;
- Maintenance monitoring and performance evaluation.

While there is general support for the fundamental principles of IEM, increasing emphasis has been given to the need for strategic reform to improve the structures and processes of decision making to realise these principles in a practical policy context. Rhetoric in NRM has most recently given focus to the need to move away from the traditional administrative structures that manage the environment in individual segments. The recent restructuring of state government departments to form 'super ministries' such as the Department of Environment and Conservation and the Department of Infrastructure, Planning and Natural Resources are notable examples in NSW of attempts to better integrate and coordinate policy responses.

3. Working towards IWCM in local government – what this means

The challenge of making the shift from policy rhetoric to real processes and outcomes can be applied to IWCM. Achieving IWCM means different things to different councils depending on what aspects of the water cycle they have control over and where this is located in existing organisational structures. For example, Hastings Council has control over all aspects of the water cycle, however Greater Taree City Council shares responsibility with county council MidCoast Water. Despite differing organisational contexts, the following can be identified as possible strategic planning tools for working towards IWCM within a local government context:

Strategic planning tools and processes	Examples
Philosophy & Framework	<ul style="list-style-type: none"> • Cultural/philosophical integration (indigenous, spiritual/religious; place-based; events/celebrations; art); • Values-based (recreation, economic, intrinsic, cultural); • Over-arching sustainability /environmental framework (Stat of Environment reporting, Local Agenda 21).
Strategic Planning Tools	<ul style="list-style-type: none"> • Visioning; • Statutory planning (Local Environmental Plans, Development Control Plans, development assessment procedures); • Corporate Plans; Plan of Management; Social and Cultural Plan • Estuary Management Plans • Guidelines.
Participation & Partnerships	<ul style="list-style-type: none"> • Decision-making processes (how to involve the community, conflict resolution, group-process, Local Agenda 21); • Partnerships & alliances (committees, task forces and working groups, signed agreements).
Design	<ul style="list-style-type: none"> • Design of settlements, architecture, interior design (relating to natural form and systems) • Art & design (inspiration, cultural events, education).
Education	<ul style="list-style-type: none"> • Types (info re environment, info re environmental mgmt, interaction with environment, action & research based) • Targets (communities, schools, planners, development industry).
Science/Research	<ul style="list-style-type: none"> • Applied research & resultant models (integrated catchment mgmt models, river-styles information, biodiversity predictive models; GIS); • Performance indicators; • Environmental monitoring.
Financial/Economic	<ul style="list-style-type: none"> • Investment/resource management (Catchment Management Board strategies, Natural heritage funds, environmental levies); • Economic incentives; • Funding best-practice examples/models.
Political Leverage	<ul style="list-style-type: none"> • Understanding and utilising political processes (including the changing nature of political situations); • Utilising political opportunities as they arise; • Influencing decision-making at and between all levels of government.

4. Strategic Framework for Integrated Water Cycle Management and Sustainable Stormwater Outcomes in the Mid-North Coast Region

The ***Strategic Framework for Integrated Water Cycle Management and Sustainable Stormwater Outcomes in the Mid-North Coast Region*** is a project which responds to an identified need for an integrated regulatory, planning and design approach to developing a Water Cycle Management Strategy. The Councils have been involved in a number of consultations and reviews over the past year with various Council sections, including planning, design, water,

sewerage, environmental services and community services. These have all aimed to identify issues related to the delivery of effective and sustainable water cycle management in the local government areas.

The following points provide a rationale for the approach taken in this project:

- Effective management of water resources is mandatory for environmental and social sustainability – it is important for all levels of government, corporations and the community.
- Environmental systems do not finish at LGA boundaries - NRM issues are best addressed in a catchment and regional context.
- Environmental systems must be situated within a physical, social and political context.
- Local government is uniquely positioned to formulate and implement IWCM given local knowledge, close community links and responsibilities for regulating land use and development.

5. Working towards a Strategic Planning Framework for Total Water Cycle – what's involved:

Working towards a strategic planning framework for IWCM involves processes of investigation, research and review; ongoing engagement with the organisation across all sectors; engagement with other stakeholders; reporting and documentation; discussion and analysis; developing and testing possible strategies and policies with stakeholders for feedback; and implementation.

The following process will produce a strategic framework for IWCM in both LGAs:

Policy review and analysis

This will involve a review of Hastings and Greater Taree's policies, practices and issues that impact on water cycle and environmental management to provide the foundation evidence for strategies that this project seeks to develop, test and implement. This is about establishing where each organisation is at with regard to the management of the water cycle and the implications this has for the development of future management strategies. Assessing water cycle management strategies to date and their organisational location will be critical to understanding what processes might be engaged in through a series of interviews, surveys and workshops and an extensive review of Council policy and planning documents. This will form a comprehensive 'evidence base' which will be developed to shape the management strategy.

Developing a shared understanding through community engagement and evidence collecting

Community Engagement

This project builds on consultations with residents, visitors & local businesses conducted as part of Hastings Council's SWEEP project, including: consultations with community and stakeholder representatives on estuarine & coastal management committees; local businesses across Hastings LGA, visitors during school holidays, & residents through an extensive community survey. A continued process of community engagement will be integral to the sustainability of the outcomes of this project. When building capacity of organisations such as local government, it must be underpinned by community engagement. There is an increasing recognition for the need

to close the loop between policy and planning, and community engagement is crucial for successful design and implementation. By consulting the community, a plan can be:

- Relevant to the community
- Aligned with community values
- Practical to the community
- Supported by the community and
- Enhance the strategic value and sustainability of outcomes.

Inclusion of community should be maintained by means of meaningful and effective community participation at all levels of decision making that affect the public. Therefore, use of community engagement methods that are active, ongoing, and interactive will be essential in this project.

Water Cycle Balance Modelling Case Study

This requires water balance modelling to be undertaken on sites (Greenfield/infill/new development) within the study local government areas to investigate the benefits of adopting an integrated water cycle management approach which maximises water reuse, water sensitive urban design and reduced water demand as well as reducing flooding, pollution, sewage flows, pollutant loads and sewer overflows. The site-specific case studies will be used to assist capacity building and the development and implementation of the strategic framework and associated policies.

Organisational and Institutional capacity building

This will involve engaging key stakeholders in the catchment to strengthen relational networks and establish regional support networks. The capacity building approach seeks to work toward new systems within council (organisational) and between stakeholders (institutional) to improve water cycle management. This component is integral to identifying the key features of an IWCM governance framework for each LGA.

Policy and strategy development

Policy and strategy will respond to stakeholder objectives, values and aspirations. Improved processes and systems will aim to overcome cross-functional issues, providing a smooth path for the development and implementation of the strategy. Project outcomes will have wider applicability to other catchment and stormwater managers. The development of a strategic framework for integrated governance of sustainable water cycle management and evaluation criteria (process and outcomes) for ongoing review and implementation will provide a framework and guiding documents which will have broad applicability.

Implementation

This will involve the integration of the strategic framework into organisational management planning and catchment and regional frameworks.

A collaborative approach will be adopted for each phase of the project, working with organisational and institutional stakeholders, seeking to build capacity and reflect community values.

6. What we know so far – preliminary insights

Project activities undertaken to date point to some key preliminary findings:

- The current organisational location of water cycle management reflects a fragmented approach and is not formally integrated within current strategic planning and reporting processes

- Management of the Water Cycle must be located within Strategic Planning processes and frameworks of Local Government
- It must be integrated into reporting and planning frameworks across the entire organisation.
- High level commitment within Council to the principle of IWCM is a critical pre-condition to engaging in a strategic planning process to develop appropriate governance and reporting frameworks.
- Organisational development and capacity building does not necessarily translate into significant organisational restructure. There are many tools and processes to consider in achieving IWCM.
- Working towards IWCM is recognised as almost inevitable and/or necessary both from an environmental and economic point of view. Integrated models are perceived by some to be more cost effective than current practices.
- The question of community engagement within the context of water cycle management is a complex one – who and how to involve the community in a way that contributes to the long term sustainability of water management outcomes.
- What constitutes an ‘integrated approach’ is necessarily shaped by the organisational and institutional operating environment of individual councils.
- There are complex institutional and policy frameworks which both potentially enable and constrain Local Government in developing an IWCM framework.

7. Conclusion – Expected Outcomes and Where to from Here

Following the preliminary investigative phase of this project, key emerging issues will help shape specific organisational and institutional capacity building activities. Extensive stakeholder engagement will occur to test out emerging options for a strategic planning framework for IWCM. Ultimately, this project will deliver the following outcomes:

- A new policy and operational model incorporating all aspects of water cycle management (sewerage, stormwater and water supply) which will lead to integrated and consistent decision making;
- Best practice guidelines for all key elements of the model;
- Improved operational outcomes for Hastings and Greater Taree Councils with the development of systems and processes that provide a closer fit in stages of the policy, development control, regulation, design, construction and operation;
- Improved collaboration and coordination within both Councils, with key government and catchment stakeholders and the community;
- Development of robust criteria for evaluating organisational and institutional capacity building as part of integrated water cycle management.

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